SEARCH REQUEST FORM

Scientific and Technical Information Center

quester's Full Name: Emilene R Gabel Examiner # : 76197 Date: 1/17/01
t Unit: 1641 Phone Number 305-0807 Serial Number: 09/192,214
ail Box and Bldg/Room Location: 7B15 Results Format Preferred (circle): PAPER DISK E-MAIL

n re than one search is submitted, please prioritize searches in order of need.

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ase provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. lude the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or ity of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if own. Please attach a copy of the cover sheet, pertinent claims, and abstract.

le of Invention: Quantitative Determination of Analytes

/entors (please provide full names): Stemmler, Ivo ; Brecht Andreas ; Ganglitz, Gunter ; Steinwand, Michael

rliest Priority Filing Date: 1/27/00

or Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the ropriate serial number.

Please search highlighted terms in claims 1-4, 6-7, 9-11, 13, 17, 19, 21-22, 25 and 27.

Specifically: keywords

Analyte > [illegible] and ? Assay?

[illegible]

Thanks
Gail

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TAFF USE ONLY

rcher: JOHN DAVIS

Phone #:

ation:

Type f Search

NA Sequence (#)

AA Sequence

Structure

Vendors and cost where applicable

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     (FILE 'HOME' ENTERED AT 09:19:09 ON 01 FEB 2001)

     FILE 'HCAPLUS, BIOSIS, MEDLINE, EMBASE, SCISEARCH, LIFESCI, JICST-EPLUS,
     WPIDS' ENTERED AT 09:19:37 ON 01 FEB 2001
L1            23 S STEMMLER I?/AU
L2           222 S BRECHT A?/AU
L3           538 S GAUGLITZ G?/AU
L4            23 S STEINWAND M?/AU
L5             2 S L1 AND L2 AND L3 AND L4
L6           626 S L1-L5
L7           104 S L6 AND ANALYTE
L8         16963 S ANALYTE(4A)(DETN OR DETERMIN? OR ANALY? OR DETECT?)
L9            30 S L7 AND L8
L10           31 S L5 OR L9
L11           13 DUP REMOV L10 (18 DUPLICATES REMOVED)
L12         1805 S (ANALYTE OR ANALYTE/RL OR NUCLEIC)(9A)(IMMUNOAFFIN? OR
AFFINI
L13         1805 S L12 OR L5
L14          368 S (ANALYTE OR ANALYTE/RL OR NUCLEIC)(9A)(INTERACT OR REACT?
KIN

     FILE 'MEDLINE' ENTERED AT 10:27:52 ON 01 FEB 2001

     FILE 'HCAPLUS, BIOSIS, MEDLINE, EMBASE, SCISEARCH, LIFESCI, JICST-EPLUS,
     WPIDS' ENTERED AT 10:29:34 ON 01 FEB 2001

     FILE 'REGISTRY' ENTERED AT 10:52:47 ON 01 FEB 2001

     FILE 'CAPLUS' ENTERED AT 10:57:59 ON 01 FEB 2001

     FILE 'HCAPLUS, BIOSIS, MEDLINE, EMBASE, SCISEARCH, LIFESCI, JICST-EPLUS,
     WPIDS' ENTERED AT 11:12:40 ON 01 FEB 2001
L15         2152 S L12 OR L14
L16          434 S L15 AND (IRRADIAT? OR FLUORES? OR FLUORO?)
L17           51 S L15 AND (MICROTIT? OR MICRO TITER OR MICRO TITRE)
L18           42 S L15 AND QUENCH?
L19          546 S L15 AND PHASE?
L20          122 S L19 AND L16
L21           15 S L19 AND L17
L22            8 S L19 AND L18
L23           69 DUP REMOV L20 (53 DUPLICATES REMOVED)
L24           21 S L21 OR L22
L25           19 DUP REMOV L24 (2 DUPLICATES REMOVED)
L26           75 S L23 OR L25

=> d bib abs 1-75
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L26 ANSWER 1 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:758587 HCAPLUS
DN 134:50944
TI Noncompetitive Immunoassay of Small **Analytes** at the Femtomolar Level by **Affinity** Probe Capillary Electrophoresis: Direct **Analysis** of Digoxin Using a Uniform-Labeled scFv Immunoreagent
AU Hafner, Frank T.; Kautz, Roger A.; Iverson, Brent L.; Tim, Roger C.; Karger, Barry L.
CS Barnett Institute and Department of Chemistry, Northeastern University, Boston, MA, 02115, USA
SO Anal. Chem. (2000), 72(23), 5779-5786
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
AB A general method for noncompetitive immunoassay of small **analytes** using **affinity** probe capillary electrophoresis (APCE) is demonstrated using digoxin as a model analyte. A uniform immunoreagent was prepd. from a single-chain antibody (scFv) gene specific for digoxin. Site-directed mutagenesis introduced a unique cysteine residue for uniform labeling with a thiol-reactive **fluorochrome**. After expression in E. coli, the scFv was purified by immobilized metal affinity chromatog. (IMAC) using an added C-terminal 6-histidine sequence. The protein was renatured and labeled while immobilized on the IMAC resin. After 0.02-.mu.m filtration to remove microaggregates, the resulting reagent was highly uniform and stable at -12.degree. for at least 1 yr. Three formats of APCE using the scFv reagent were explored. A "mix-and-inject" assay optimized for low detection limits demonstrated anal. of 10 pM digoxin in aq. std. solns. in 10 min. A rapid mix-and-inject format in a short capillary allowed detection of 1 nM digoxin in 1 min. Digoxin samples in serum and urine were injected directly after 10-fold diln. In combination with solid-**phase** extn., 400 fM digoxin was detected in 1 mL of serum. Including solid-**phase** extn., reproducibility was within 2.5%, and the linear range was 3 orders of magnitude. The strategy adopted in this paper should be of general use in the low-level anal. of small analytes.
RE.CNT 38
RE
(1) Burks, E; Biotechnol Prog 1995, V11, P112 HCAPLUS
(2) Chen, F; J Chromatogr, A 1994, V680, P425 HCAPLUS
(3) Chiem, N; Clin Chem 1998, V44, P591 HCAPLUS
(4) Christopoulos, T; Immunoassay 1996, P227 HCAPLUS
(5) Cook, D; Clin Chem 1993, V39, P965 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:683208 HCAPLUS
TI Dual analyte flow injection **fluorescence** immunoassays using thiophilic gel reactors and synchronous scanning detection
AU Guo, Jiu C.; Miller, James N.; Evans, Mark; Palmer, Derek A.
CS Dep. Chem., Loughborough University, Loughborough, Leicestershire, LE11 3TU, UK
SO Analyst (Cambridge, U. K.) (2000), 125(10), 1707-1708
CODEN: ANALAO; ISSN: 0003-2654
PB Royal Society of Chemistry
DT Journal
LA English
AB Heterogeneous **fluorescence** immunoassays have been automated using flow injection manifolds incorporating thiophilic gel solid **phase** reactors to sep. antibody-bound and unbound analyte mols. Antibody elution is achieved by changes in ionic strength, thus allowing the use of pH sensitive **fluorescent** labels. This facilitates the development of dual **analyte** systems, in which two **competitive** immunoassays with sep. labels are monitored in parallel. Detection of the **fluorophores** by high speed synchronous **fluorescence** scanning while the flow is briefly stopped utilizes either one synchronous interval which detects both **fluorophores**, or two sep. scans at different wavelength intervals, one for each **fluorophore**. Simultaneous analyses of serum albumin and transferrin exemplify these novel approaches. Spectroscopic interferences are very small, analyte recoveries are close to 100%, with a relative std. deviation of 5-6% and a sampling rate of 20 h-1.
RE.CNT 9
RE
(1) Hemmila, I; Clin Chem 1987, V33, P2281 HCAPLUS
(2) Hutchens, T; Clin Chem 1987, V33, P1502 HCAPLUS
(3) Hyfantis, G; Proc SPIE-Int Soc Opt Eng 1999, V3534, P92 HCAPLUS
(4) Lloyd, J; Nat Phys Sci 1971, V231, P64 HCAPLUS
(5) Miller, J; J Pharm Biomed Anal 1991, V9, P1115 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 3 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:534904 HCAPLUS
DN 133:117171
TI Method for **fluorometric** detection in heterogeneous **phase** affinity assays using **microtiterplates**
IN Stemmler, Ivo; Brecht, Andreas; Gauglitz, Gunter; Steinwand, Michael
PA Bodenseewerk Perkin-Elmer G.m.b.H., Germany
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1024363	A2	20000802	EP 2000-101102	20000120
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19903576	A1	20000831	DE 1999-19903576	19990129
JP 2000221192	A2	20000811	JP 2000-22736	20000131
PRAI DE 1999-19903576		19990129		

AB The invention concerns a method for detecting **fluorescence** signals from one **phase** of heterogeneous **phase** affinity assays that are carried out in **microtiter**/nanotiterplates with immobilized probes; after the reaction the **fluorescence** is measured in the liq. **phase**; interference from the solid **phase** can be eliminated with **quenching** materials. The method eliminates washing steps during the assay. This detection is applied for immunoassays and nucleic acid hybridization assays; it enables to work in vols. < 1 .mu.L.

L26 ANSWER 4 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:476819 HCAPLUS
DN 133:234675
TI Investigation of catechin and acridine derivatives using voltammetric and fluorimetric DNA-based sensors
AU Vanickova, Maria; Labuda, Jan; Buckova, Miriam; Surugiu, Ioana; Mecklenburg, Michael; Danielsson, Bengt
CS Department of Analytical Chemistry, Slovak Technical University, Bratislava, SK-81237, Slovakia
SO Collect. Czech. Chem. Commun. (2000), 65(6), 1055-1066
CODEN: CCCCAK; ISSN: 0010-0765
PB Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic
DT Journal
LA English
AB The preconcn.-differential pulse voltammetric detection scheme with a carbon paste electrode bulk **phase** modified with DNA was used for the investigation of behavior and the detn. of trace levels of catechin and acridine derivs. The effect of electrochem. activation of the electrode and the DNA-type was examd. The results are compared with those obtained by fluorimetric measurement of the TO-PRO-3 dye: DNA complex in the presence of analytes. With voltammetric biosensors, the detection limits are in the nmol l-1 concn. region. Using **competitive** reagents, the intercalation of **analytes** to DNA is indicated.
RE.CNT 31
RE
(1) Blake, A; Biopolymers 1968, V6, P1225 HCAPLUS
(2) Carter, M; J Am Chem Soc 1989, V111, P8901 HCAPLUS
(4) Ferguson, L; Mutat Res 1991, V258, P123 HCAPLUS
(5) Hashimoto, K; Supramol Chem 1993, V2, P265 HCAPLUS
(6) Kelley, S; Bioconjugate Chem 1997, V8, P31 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 5 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:383856 HCAPLUS
DN 133:28249
TI A new support for high performance affinity chromatography and other uses
IN Abbott, Nicholas; Stroeve, Pieter; Dubrovsky, Timothy B.; Hou, Zhizhong
PA The Regents of the University of California, USA
SO PCT Int. Appl., 114 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000032044	A1	20000608	WO 1999-US28827	19991203
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRAI US 1998-205750 19981204

AB Multilayered particulate materials are formed by coating a particulate substrate with a metal and adsorbing an org. layer comprising a recognition moiety onto the metal film. The recognition moiety **interacts** with an **analyte** of interest allowing for its **detection**, purifn., etc. Suitable recognition moiety can be selected from a range of species including, small mols., polymers and biomols. and the like. The novel particulate materials of the invention can be utilized in an array of methods including, ion-exchange, ion-selective ion-exchange, assays, affinity dialysis, size exclusion dialysis, as supports in solid **phase** synthesis, combinatorial synthesis and screening of compd. libraries and the like.

RE.CNT 7
RE
(1) Bamdad; US 5620850 A 1997 HCAPLUS
(2) Carron; US 5693152 A 1997 HCAPLUS
(3) Loboda; US 5501875 A 1996 HCAPLUS
(4) Ribi; US 5491097 A 1996 HCAPLUS
(5) Summerton; US 5217866 A 1993 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 6 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:248885 HCAPLUS
DN 133:14270
TI Development of **fluorescence** based flow immunoassays utilising restricted access columns
AU Onnerfjord, P.; Marko-Varga, G.
CS Department of Cell and Molecular Biology, Lund University, Lund, 22100, Swed.
SO Chromatographia (2000), 51(3/4), 199-204
CODEN: CHRGB7; ISSN: 0009-5893
PB Friedrich Vieweg & Sohn Verlagsgesellschaft mbH
DT Journal
LA English
AB The development of high-speed flow immunoassay techniques is described. The principles are based on heterogeneous flow immunoassay interactions. High sample throughput can be used for screening small analytes in a no. of biol. matrixes originating from samples of water from environmentally polluted areas, or biol. fluids such as urine and plasma. The immunochem. detection principle is based on chromatog. sepn. of the immunocomplex formed (AbAg or AbAg*) and the free antigen (Ag) by a restricted access (RA) column, utilizing size-exclusion and reversed **phase** mechanisms. A **fluorescein**-labeled **analyte** (Ag*) was used in the **competitive assay** format with **fluorescence detection**. Sample throughput was 80 h-1 and detection limits 1.4 nM (300 pg ml-1) for atrazine and 2.3 nM (500 pg ml-1) for the sum of triazines. Analyses could be performed at a sample throughput of 400 6 h-1 shift. Basic immunoaffinity interactions of a no. of immunoreagents, using **fluorescence** polarization were studied and outlined both for triazines and for 2,4-D. Structural variations in tracer synthesis confirmed that this is an important part in the design and optimization of flow immuno methodologies.
RE.CNT 23
RE
(1) Boos, K; DE 4130475 A1 1991 HCAPLUS
(2) Boos, K; Fres J Anal Chem 1995, V352, P684 HCAPLUS
(5) Cassidy, S; Anal Chem 1992, V64, P1973 HCAPLUS
(6) Dandliker, W; Methods in Enzymology 1981, V74, P3 HCAPLUS
(7) Eremin, S; Anal Lett 1994, V27, P3013 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 7 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:116947 HCAPLUS
DN 132:168269
TI Template-textured materials and membranes for affinity separations and analysis
IN Ulbricht, Mathias; Piletski, Sergiy; Schedler, Uwe; Matuschewski, Heike
PA Poly-An G.m.b.H., Germany
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000007702	A2	20000217	WO 1999-DE2429	19990802
	WO 2000007702	A3	20000420		
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19936992	A1	20000525	DE 1999-19936992	19990802
PRAI	DE 1998-19836180	19980803			
	DE 1998-19855290	19981124			
	DE 1999-19936992	19990802			

AB Template-textured materials are described which are template-textured polymers (TGP) bound to various surfaces including membranes (TGM, template-textured membranes). The materials are created by modifying the surface of solid carriers by crosslinking or graft polymn. of functional monomers onto the surface in the presence of a template, forming stable template imprints that subsequently bind template mols. or template derivs. in a specific manner. The materials can be used for sepn. and anal. of specific substances, e.g., herbicides, antibodies.

L26 ANSWER 8 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:102017 HCAPLUS
DN 132:175936
TI **Fluorescence** detection of .beta.-estradiol using a molecularly imprinted polymer
AU Rachkov, Alexandre; McNiven, Scott; El'skaya, Anna; Yano, Kazuyoshi; Karube, Isao
CS Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, 153-8904, Japan
SO Anal. Chim. Acta (2000), 405(1-2), 23-29
CODEN: ACACAM; ISSN: 0003-2670
PB Elsevier Science B.V.
DT Journal
LA English
AB A **fluorescence** sensing system has been developed for the detn. of .beta.-estradiol using a molecularly imprinted polymer (MIP) and liq. chromatog. (LC). Two approaches were explored: (a) direct measurement of the .beta.-estradiol **fluorescence**; (b) a method based on the **competitive** displacement by the **analyte** of a **fluorescent** compd. from specific binding in the imprinted polymer. Detection based on the direct mode shows a linear response over the range of 0.1-20 .mu.M (30-5000 ng ml-1). The time necessary for the measurement of one sample is about 15 min. This approach makes possible the development of highly selective and sensitive anal. systems based on MIPs which can be prepd. with selectivity for a wide variety of substances.
RE.CNT 22
RE
(1) Allender, C; Chirality 1997, V9, P238 HCAPLUS
(3) Cheong, S; Macromolecules 1997, V30, P1317 HCAPLUS
(4) Haupt, K; Anal Chem 1998, V70, P3936 HCAPLUS
(5) Kriz, D; Anal Chem 1995, V67, P2142 HCAPLUS
(6) Kriz, D; Anal Chem 1997, V69, P345A HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 9 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:795839 HCAPLUS
DN 132:20795
TI Solution-**phase** assays, especially ELISAs, using detector-spacer-target molecules and immobilized target molecule-binding agents
IN Rajadhyaksha, Manoj; Kumar, Vijay
PA Immco Diagnostics, USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9964447	A1	19991216	WO 1999-US12708	19990607

W: CA, JP
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI US 1998-94244 19980609
US 1998-129346 19980805

AB A method is disclosed for quantitation of an **analyte** in a test soln., wherein the **analyte** has a specific binding **affinity** for a **detector** mol. The method comprises the steps of attaching a target mol. to the detector mol. via a spacer; contacting the detector-spacer-target mol. complex with the test soln. contg. the analyte to form a binding mixt.; contacting the binding mixt. with a solid matrix precoated with capture mol., which can specifically bind to target mols.; removing unbound materials; and measuring bound materials. Also disclosed is a use of the method of the present invention for the early detection of Insulin Dependent Diabetes Mellitus. Biotinylated insulin, avidin-coated **microtiter** plates, and goat anti-human IgG and IgM antibodies conjugated with alk. phosphatase were used in a soln.-**phase** ELISA to det. insulin antibodies in human serum samples.

RE.CNT 8
RE
(1) Fino; US 5464746 A 1995 HCAPLUS
(2) Ishii; US 5474895 A 1995 HCAPLUS
(3) Oh; US 5168057 A 1992 HCAPLUS
(4) Rabin; US 5200318 A 1993 HCAPLUS
(5) Rubenstein; US 3817837 A 1974 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 10 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:780908 HCAPLUS
DN 132:333062
TI Optical fiber immunosensor for the real-time analysis of ligand-receptor binding kinetics
AU Lu, Hua; Ma, Jianmin; Zhao, Yujie; Lu, Zuhong
CS Natl. Lab. Mol. Biomol. Electron., Southeast Univ., Nanjing, Peop. Rep. China
SO Proc. SPIE-Int. Soc. Opt. Eng. (1999), 3863(Biomedical Optics (BMO '99)), 143-147
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB Real-time immunol. interaction anal. is of great importance for the understanding of relationship between the structure and function of immunomols. A fluorimetric evanescent wave optical fiber immunosensor has been developed for the quant. anal. of ligand-reactor binding kinetics in real-time. The specific immunol. reaction between IgG mols. and **fluorescein** isothiocyanate (FITC)-labeled anti-IgG antibodies was chosen as a model system. The optical fiber immunosensor probe used in this study consisted of a piece of silanized quartz optical fiber core on which IgG mols. were immobilized. The immunol. reactions were monitored fluorimetrically in situ to follow the reaction dynamics on the optical fiber surface. A gradually increase in **fluorescence** signal was found upon binding of **fluorescein** isothiocyanate (FITC)-labeled anti-IgG antibodies to the surface immobilized IgG mols. This signal was directly related to the surface concn. of the **analyte** and immunol. **reaction kinetic** properties. Thus any change in anal. signal in this study would reflect the real process of ligand-receptor binding on the optical fiber probe surface. A flow injection system was introduced into the expts. to shift the immunol. reaction from mass transport to reaction rate limited. The quant. information obtained from the initial reaction **phase** of a immunol. reaction was then studied with a theor. model using one to one binding, which was a significant of the real-time binding events to evaluate the binding kinetic parameters. The assocn. and dissocn. rate consts. for IgG/anti-IgG antibody were calcd. to be 1.4 X 10(superscript 6) M(superscript -1)s(superscript -1) and 2.1 X 10(superscript -4)s(superscript -1), resp. The results presented in this paper confirmed that the optical fiber immunosensor described in this study might be used as a tool for rapid and sensitive biospecific interaction anal.
RE.CNT 11
RE
(1) Andrade, J; IEEE Transactions on electron devices ED-32 1985, P1175 HCAPLUS
(3) Ivnitski, D; Biochemistry and Bioenergetics 1998, V45, P27 HCAPLUS
(4) Malmborg, A; Scand J Immunol 1992, V35, P643 HCAPLUS
(6) McNeil, C; Frontiers in Biosensors Practical Applications 1997, P17 HCAPLUS
(7) Scheper, T; Biosensors & Bioelectronics 1994, V9, P73 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 11 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:614179 HCAPLUS
DN 131:238797
TI **Nucleic** acid **detection** method using a solution **phase sandwich assay**
IN Abel, Andreas; Beck, James Joseph; Ehrat, Markus; Oroszlan, Peter
PA Novartis A.-G., Switz.; Novartis-Erfindungen Verwaltungsgesellschaft m.b.H.
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9947705	A1	19990923	WO 1999-EP1782	19990317
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9934145	A1	19991011	AU 1999-34145	19990317
EP 1064406	A1	20010103	EP 1999-915651	19990317
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRAI GB 1998-5935 19980319
WO 1999-EP1782 19990317

AB A method of **detecting** a target polynucleotide using a soln. **phase nucleic** acid **sandwich assay**, wherein the solid support is an optical planar waveguide, and the label is detected by measuring the luminescence that is excited in the evanescent field of the waveguide. The method makes use of multiple **fluorescently** labeled polynucleotides (label extender probes) that are bound to or bind a target polynucleotide that is captured (i.e., denatured and immobilized) on the surface of an optical planar waveguide. The target polynucleotide is captured by binding to one or a series of capture extender probes which bind to multiple copies of a single species of capture probe that are bound to the waveguide. Alternatively, the capture extender probe (if no capture probe us used) or capture probe may further comprise a ligand which is capable of binding to a receptor which is bound to the surface of the waveguide. The bound label is proportional to the amt. of target polynucleotide present in the assay sample, and the amt. of target polynucleotide may be quantified by ref. to samples contg. known amts. of the target polynucleotide or using a master curve prepd. using any polynucleotide with the same sequence of known concn. and purity. The method has the advantage that sepn. of bound and unbound label is not necessarily required as only bound label is detected. The 3-fold selectivity incorporated, i.e. the evanescent field for spatial

resoln., biochem. recognition for chem. selectivity, and **fluorescence** labeling for enhanced detection selectivity and sensitivity, allows the measurement of minute amts. of analytes in complex sample media. The two or three hybridization interactions needed in order to bring the **fluorescent** label into the evanescent field render the method ov the invention more selective than previously described methods of polynucleotide detection utilizing planar waveguides which envisage a single hybridization interaction. The method is exemplified by sequence-specific detection of the internal transcribed spacer (ITS) of Pseudocercosporella herpotrichoides, the causative agent of eyespot disease in wheat. The method may be of use in detecting nucleic acids assocd. with disease at very low concns.

RE.CNT 7
RE
(1) Chiron Corp; EP 0423839 A 1991 HCAPLUS
(2) Chiron Corp; WO 9114788 A 1991 HCAPLUS
(3) Chiron Corp; WO 9516055 A 1995 HCAPLUS
(4) Ciba Geigy AG; WO 9635940 A 1996 HCAPLUS
(5) Pilevar, S; Analytical Chemistry 1998, V70(10), P2031 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 12 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:470171 HCAPLUS
TI Determination of four **fluoroquinolones** in milk by on-line immunoaffinity capture coupled with reversed-**phase** liquid chromatography
AU Holtzapple, Carol K.; Buckley, Sandra A.; Stanker, Larry H.
CS Agricultural Research Service, Food Animal Protection Research Laboratory, U.S. Department of Agriculture, College Station, TX, 77845, USA
SO J. AOAC Int. (1999), 82(3), 607-613
CODEN: JAINEE; ISSN: 1060-3271
PB AOAC International, Inc.
DT Journal
LA English
AB An automated, online immunoaffinity extn. method was developed for the anal. of 4 **fluoroquinolones** in milk: ciprofloxacin, difloxacin, enrofloxacin, and sarafloxacin. This method involves **analyte** extn. using an **immunoaffinity** capture column contg. anti-**fluoroquinolone** antibodies coupled online with reversed-**phase** column chromatog. Liq. chromatog. analyses were performed by isocratic elution using a mobile **phase** of 2% acetic acid-acetonitrile (85 + 15) and an Inertsil Ph column with **fluorescence** detection at excitation and emission wavelengths of 278 and 444 nm, resp. No significant interferences from the sample matrix were obsd., indicating good selectivity with the immunoaffinity column. Recoveries from fortified raw milk samples (5-50 ppb of each **fluoroquinolone**) ranged from 72 to 90%, with std. deviations of .ltoreq.8%.
RE.CNT 23
RE
(1) Brandon, D; J Agric Food Chem 1994, V42, P1588 HCAPLUS
(2) Creaser, C; J Chromatogr A 1998, V794, P37 HCAPLUS
(3) Degand, G; J Agric Food Chem 1992, V40, P70 HCAPLUS
(4) Foster, R; J Pharm Biomed Anal 1995, V13, P1243 HCAPLUS
(5) Gau, W; J Liq Chromatogr 1985, V8, P485 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 13 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:436891 HCAPLUS
DN 131:120407
TI Analytical methods for detection of selected estrogenic compounds in aqueous mixtures
AU Snyder, Shane A.; Keith, Timothy L.; Verbrugge, David A.; Snyder, Erin M.; Gross, Timothy S.; Kannan, Kurunthachalam; Giesy, John P.
CS National Food Safety and Toxicology Center Department of Zoology and Institute of Environmental Toxicology, Michigan State University, East Lansing, MI, 48824-1311, USA
SO Environ. Sci. Technol. (1999), 33(16), 2814-2820
CODEN: ESTHAG; ISSN: 0013-936X
PB American Chemical Society
DT Journal
LA English
AB Both natural estrogens and synthetic compds. that mimic estrogen can reach the aquatic environment through wastewater discharges. Because nonylphenol (NP), octylphenol (OP), nonylphenol polyethoxylates (NPE), 17.beta.-estradiol (E2), and ethynylestradiol (EE2) have previously been found to be estrogenic and to occur in wastewater effluents, they were the primary analytes for which the method was developed. Water samples were extd. in situ using solid-**phase** extn. disks. **Analytes** were sepd. by HPLC and **detected** by **fluorescence** or **competitive** RIA. Method detection limits (MDLs) using HPLC with **fluorescence** detection were 11, 2, and 52 ng/L for NP, OP, and NPE, resp. The RIA MDLs for E2 and EE2 were 107 and 53 pg/L, resp. Samples were collected from 4 municipal wastewater treatment plants in south central Michigan, 8 locations on the Trenton Channel of the Detroit River, MI, and 5 locations in Lake Mead, NV. Concns. of NP and OP ranged from less than the MDL to 37 and 0.7 .mu.g/L, resp., NPE concns. ranged from less than the MDL to 332 .mu.g/L. Concns. of E2 and EE2 ranged from less than the MDLs to 3.7 and 0.8 ng/L, resp.
RE.CNT 47
RE
(1) Aherne, G; Ecotoxicol Environ Saf 1985, V9, P79 HCAPLUS
(2) Aherne, G; J Pharm Pharmacol 1989, V41, P735 HCAPLUS
(3) Ahlborg, U; Crit Rev Toxicol 1995, V25, P463 HCAPLUS
(4) Barcelo, D; Environ Sci Technol 1993, V27, P271 HCAPLUS
(5) Bennie, D; Sci Total Environ 1997, V193, P263 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 14 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:134547 HCAPLUS
DN 130:150475
TI Selective trace enrichment by immunoaffinity capillary electrochromatography online with capillary zone electrophoresis-laser-induced **fluorescence**
AU Thomas, David H.; Rakestraw, David J.; Schoeniger, Joseph S.; Lopez-Avila, Viorica; Van Emon, Jeanette
CS Sandia National Laboratories, Livermore, CA, 94551, USA
SO Electrophoresis (1999), 20(1), 57-66
CODEN: ELCTDN; ISSN: 0173-0835
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB Limited by the lack of a sensitive, universal detector, many capillary-based liq.-**phase** sepn. techniques might benefit from techniques that overcome modest concn. sensitivity by preconcg. large injection vols. The work presented employs selective solid-**phase** extn. by immunoaffinity capillary electrochromatog. (IACEC) to enhance detection limits. A model analyte, **fluorescein** isothiocyanate (FITC) biotin, is electrokinetically applied to a capillary column packed with an immobilized anti-biotin-IgG support. After selective extn. by the **immunoaffinity** capillary, the bound **analyte** is eluted, migrates by capillary zone electrophoresis (CZE), and is detected by laser-induced **fluorescence**. The column is regenerated and reused many times. The authors evaluate the performance of IACEC for selective trace enrichment of analytes prior to CZE. The calibration curve for FITC-biotin bound vs. application time is linear from 10 to 300 s. Recovery of FITC-biotin spiked into a dild. urinary metabolites soln. was 89.4% vs. spiked buffer, with a precision of 1.8% relative std. deviation (RSD).
RE.CNT 31
RE
(1) Beckers, J; J Chromatogr 1990, V508, P3 HCAPLUS
(2) Cai, J; J Liq Chromatogr 1992, V15, P1179 HCAPLUS
(3) Cai, J; J Liq Chromatogr 1993, V16, P2007 HCAPLUS
(4) Chien, R; Anal Chem 1992, V64, P489A HCAPLUS
(5) Colon, L; Anal Chem 1997, V69, P461A HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 15 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:91111 HCAPLUS
TI Multi-analyte determination based on flow injection liposome immunoanalysis (FILIA): Alachlor and solanine as model analytes
AU Kim, Myunghee; Durst, Richard A.
CS Institute of Comparative & Environmental Toxicology, Cornell University, Geneva, NY, 14456, USA
SO Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), AGRO-073 Publisher: American Chemical Society, Washington, D. C.
CODEN: 67GHA6
DT Conference; Meeting Abstract
LA English
AB A FILIA system has been developed for detg. two model analytes, alachlor and solanine, simultaneously. Liposomes, encapsulating a **fluorescent** dye as the detection marker and incorporating analyte-dipalmitoyl phosphatidyl ethanolamine as one of components of liposome bilayer, were made by the reverse **phase** evapn. method. A capillary immunoreactor was prepd. by coating antibodies on the inner surface of the capillary via site-directed immobilization. Two **fluorescence** detectors were installed in tandem, and the flow of reagents was controlled by a solenoid interface. The results demonstrated that this FILIA system, based on a **competitive** immunoassay, could be used for **detecting** different **analytes** simultaneously with a relatively short **assay** time.

L26 ANSWER 16 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:91094 HCAPLUS
TI Multi-analyte determination based on flow injection liposome immunoanalysis (FILIA): Alachlor and solanine as model analytes
AU Kim, Myunghee; Durst, Richard A.
CS Institute of Comparative & Environmental Toxicology, Cornell University, Geneva, NY, 14456, USA
SO Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), AGRO-056 Publisher: American Chemical Society, Washington, D. C.
CODEN: 67GHA6
DT Conference; Meeting Abstract
LA English
AB A FILIA system has been developed for detg. two model analytes, alachlor and solanine, simultaneously. Liposomes, encapsulating a **fluorescent** dye as the detection marker and incorporating analyte-dipalmitoyl phosphatidyl ethanolamine as one of components of liposome bilayer, were made by the reverse **phase** evapn. method. A capillary immunoreactor was prepd. by coating antibodies on the inner surface of the capillary via site-directed immobilization. Two **fluorescence** detectors were installed in tandem, and the flow of reagents was controlled by a solenoid interface. The results demonstrated that this FILIA system, based on a **competitive** immunoassay, could be used for **detecting** different **analytes** simultaneously with a relatively short **assay** time.

L26 ANSWER 17 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:815706 HCAPLUS
DN 130:204287
TI Kinetic factors in the response of piezo-optical chemical monitoring devices
AU Gibson, Ceri A.; Carter, Timothy J. N.; Shepherd, Paul D.; Wright, John D.
CS School of Physical Sciences, Centre for Materials Research, University of Kent, Canterbury, Kent, CT2 7NR, UK
SO Sens. Actuators, B (1998), B51(1-3), 238-243
CODEN: SABCEB; ISSN: 0925-4005
PB Elsevier Science S.A.
DT Journal
LA English
AB The dependence of the amplitude, **phase** lag and shape of the response of a novel piezo-optical monitoring system on the thickness and the geometry of color development in the reagent layer were studied using model systems, and compared with the response of a typical real reagent system. The principles for optimization of **phase**-locking and illumination frequency are illustrated, and the use of the system to study the diffusion and **reaction kinetics** for reactions of **analytes** in solid reagent matrixes is discussed.
RE.CNT 3
RE
(1) Clarke, D; WO 901301 1990
(2) Colin, F; Sensors and Actuators B 1998, V51, P244
(3) Wright, J; Sensors and Actuators B 1998, V51, P121

L26 ANSWER 18 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:593775 HCAPLUS
DN 130:22343
TI Gradient reversed-**phase** liquid chromatography coupled online to receptor-affinity detection based on the urokinase receptor
AU Oosterkamp, A. J.; van der Hoeven, R.; Glassgen, W.; Konig, B.; Tjaden, U.
R.; van der Greef, J.; Irth, H.
CS Division of Analytical Chemistry, Leiden/Amsterdam Center for Drug Research, University of Leiden, Leiden, 2300 RA, UK
SO J. Chromatogr., B: Biomed. Sci. Appl. (1998), 715(1), 331-338
CODEN: JCBBEP; ISSN: 0378-4347
PB Elsevier Science B.V.
DT Journal
LA English
AB A postcolumn receptor-affinity detection (RAD) was developed for the detection of urokinase and cross-reactive compds. The anal. method consisted of gradient reversed-**phase** HPLC coupled online to a RAD system based on **fluorescein**-labeled urokinase receptor (**fluorescein**-uPAR) as reagent. **Fluorescein**-uPAR was added continuously to the HPLC effluent to react with analytes eluting from the LC column. Unreacted **fluorescein**-uPAR was removed by a short affinity column packed with an immobilized urokinase support. The **analyte**-bound **fluorescein**-uPAR fraction passes the **affinity** column unretained and was **detected** downstream by means of a **fluorescence** detector. An abs. detection limit of 40 fmol urokinase was obtained in the flow injection mode. In the gradient HPLC-RAD system a detection limit of 40 nM (20-.mu.l injection, abs. amt., 800 fmol) was obtained. The present method allowed the identification of active breakdown products of urokinase both in std. samples and biol. matrixes.
RE.CNT 22
RE
(2) Bailon, P; Bioprocess Technol 1991, V12, P267 HCAPLUS
(4) Cho, B; J Chromatogr A 1996, V743, P181 HCAPLUS
(5) Endo, N; J Immunol Methods 1987, V104, P253 HCAPLUS
(9) Irth, H; J Chromatogr 1993, V633, P65 HCAPLUS
(10) Kuiper, J; J Biol Chem 1992, V267, P1589 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 19 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:339855 HCAPLUS
DN 129:104819
TI Sandwich-type deoxyribonucleic acid hybridization assays based on enzyme amplified time-resolved **fluorometry**
AU Chiu, Norman H. L.; Christopoulos, Theodore K.; Peltier, James
CS Department of Chemistry and Biochemistry, University of Windsor, Windsor, ON, N9B 3P4, Can.
SO Analyst (Cambridge, U. K.) (1998), 123(6), 1315-1319
CODEN: ANALAO; ISSN: 0003-2654
PB Royal Society of Chemistry
DT Journal
LA English
AB **Microtiter** well-based sandwich-type DNA hybridization assays are reported using enzyme amplified time-resolved **fluorometry** of Tb3+ chelates. The target DNA was hybridized with 2 adjacent and non-overlapping oligonucleotide probes, one oligonucleotide serving as the capture probe and the other as the detection probe. Two ligand-specific binding protein pairs were used alternately for capture of the hybrids to the solid **phase** and detection; the biotin-streptavidin and the digoxigenin-anti-digoxigenin interaction. In both cases, alk. phosphatase was used as a reporter mol. and diflunisal phosphate as a substrate. The catalytic hydrolysis of the substrate produces diflunisal which forms ternary **fluorescent** complex with Tb3+-EDTA. Furthermore, the effect of the probe labeling method and the position of the label on the sensitivity of the assays was examd. The data suggest that capture of the hybrids through biotin-streptavidin and detection via digoxigenin-anti-digoxigenin offer 2-3 times higher sensitivity than the reverse configuration. The highest sensitivity was achieved with enzymic labeling of capture and detection probes at the 3' end. A signal-to- background ratio of 4 was achieved for 0.2 fmol of target DNA. The RSD were better than 4%.

L26 ANSWER 20 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:248159 HCAPLUS
DN 128:299072
TI Optical immunoprobe development for multiresidue monitoring in water
AU Brecht, A.; Klotz, A.; Barzen, C.; Gauglitz, G.; Harris, R. D.; Quigley, G. R.; Wilkinson, J. S.; Sztajnbok, P.; Abuknesha, R.; Gascon, J.; Oubina, A.; Barcelo, D.
CS Institute of Physical Chemistry, University of Tubingen, Tubingen, 72076, Germany
SO Anal. Chim. Acta (1998), 362(1), 69-79
CODEN: ACACAM; ISSN: 0003-2670
PB Elsevier Science B.V.
DT Journal
LA English
AB Aquifers used for drinking water prodn. require regular monitoring for org. pollutants. Pollutant levels and pollutant patterns may change rapidly esp. in surface water. Monitoring systems capable of unattended and automated operation are desirable e.g. at pumping sites. In this paper we report on a study of the application of immunoanal. techniques for flexible and automated multiresidue testing. A solid **phase fluorescence** immunoassay with immobilized analyte derivate and free, **fluorescence** labeled antibody is used. Two optical transducers were tested: A simple 'slab'-waveguide made of sheet glass and an integrated optical (IO) waveguide. Bulk **fluorophore** excitation was used to est. the performance of each transducer. Both transducers allow an antibody surface coverage of less than 1.permill. of a monolayer of protein to be detected. The direct and covalent immobilization of analyte derivates at the transducer surface for a binding inhibition **assay** approach is compared to a **competitive assay** with immobilization of **analyte** derivates via an auxiliary antibody conjugate. The use of this auxiliary system allows the testing of different analytes at the same transducer surface. Atrazine was selected as a model analyte for the first trials. The ELISA type assay gives a test midpoint at 2.2 .mu.g/L and an estd. limit of detection of 0.3 .mu.g/L. The **fluoroimmunoprobe** with a binding inhibition assay has a test midpoint for atrazine at about 6 .mu.g/L. In the competitive assay with an auxiliary antibody conjugate signal levels were reduced by a factor of two and competition of free atrazine was poor. Titrn. with free analyte derivate (atrazine caproic acid) confirmed that this may be optimized by changing the competing derivate.

L26 ANSWER 21 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:165232 HCAPLUS
DN 128:292433
TI High sample throughput flow immunoassay utilising restricted access columns for the separation of bound and free label
AU Onnerfjord, Patrik; Eremin, Sergei A.; Emneus, Jenny; Marko-Varga, Gyorgy
CS Department of Analytical Chemistry, Lund University, Lund, 22100, Swed.
SO J. Chromatogr., A (1998), 800(2), 219-230
CODEN: JCRAEY; ISSN: 0021-9673
PB Elsevier Science B.V.
DT Journal
LA English
AB A flow immunodetection system with high sample throughput capacity is described for the screening of various analytes. The immunochem. detection principle is based on the chromatog. sepn. of the formed immunocomplex (AbAg or AbAg*) and the free antigen (Ag) by a restricted access (RA) column, utilising size-exclusion and reversed-**phase** mechanism. A **fluorescein** labeled **analyte** (Ag*) was used in the **competitive assay** format with **fluorescence detection**. The speed and simplicity of the assay were the greatest advantages, allowing measurement of the analyte to be carried out in less than 1 min. The biocompatibility and capacity of the restricted access material allowed multiple injections of up to 5000, without any breakthrough of the **fluorescent** tracer mol. and thus need for regeneration. The flow immunoassay was developed using the well-known atrazine herbicide and some transformation products as model compds., due to their human toxicity and widespread use. The sample throughput was 80 samples per h and the detection limits were 1.4 nM (300 pg/mL) for atrazine (Ab I) and 2.3 nM (500 pg/mL) for the sum of triazines (Ab II-III). Different sample matrixes, PBS buffer, creek water, and urine were successfully applied in the flow system without the need for any sample handling step. For plasma samples an addnl. clean-up step using solid-**phase** extn. had to be included. The resulting detection limits for atrazine in plasma and water samples using this clean-up and trace enrichment procedure were found to be 2 ng/mL and 20 pg/mL, resp. The anal. could be performed at a sample throughput rate of 400 per 6-h working shift.

L26 ANSWER 22 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:146549 HCAPLUS
DN 128:138323
TI Method and apparatus for desorption and ionization of analytes
IN Hutchens, T. William; Yip, Tai-Tung
PA Baylor College of Medicine, USA
SO U.S., 64 pp. Cont.-in-part of U.S. Ser. No. 68,896.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5719060	A	19980217	US 1995-483357	19950607
	CA 2163426	AA	19941208	CA 1994-2163426	19940527
	JP 2000131285	A2	20000512	JP 1999-237646	19940527
	US 5894063	A	19990413	US 1997-785637	19970117
	US 6027942	A	20000222	US 1997-785636	19970117
PRAI	US 1993-68896	19930528			
	JP 1995-501011	19940527			

AB This invention relates generally to methods and app. for desorption and ionization of analytes for the purpose of subsequent scientific anal. by such methods, for example, as mass spectrometry or biosensors. More specifically, this invention relates to the field of mass spectrometry, esp. to the type of matrix-assisted laser desorption/ionization, time-of-flight mass spectrometry used to analyze macromols., such as proteins or biomols. Most specifically, this invention relates to the sample probe geometry, sample probe compn., and sample probe surface chemistries that enable the selective capture and desorption of analytes, including intact macromols., directly from the probe surface into the gas (vapor) **phase** without added chem. matrix.

L26 ANSWER 23 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:69153 HCAPLUS
DN 128:96982
TI Exploiting Polypeptide Motifs for the Design of Selective Cu(II) Ion Chemosensors
AU Torrado, Alicia; Walkup, Grant K.; Imperiali, Barbara
CS Department of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, 91125, USA
SO J. Am. Chem. Soc. (1998), 120(3), 609-610
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB A family of 5-dimethylaminonaphthalene-1-sulfonamide (Dns)-modified pentapeptides [Xaa(Dns)-Gly-His-Ser-Ser-NH2] based upon the amino terminal Cu(II)- and Ni(II)-binding (ATCUN) domain of the serum albumins were prepd. Peptides 1-3 (Xaa = Baa, Amb, Orn) may be used to signal both Ni(II) and Cu(II) since the peptides bind to these **analytes** with high **affinity** and complex formation is accompanied by **fluorescence quenching**. Modification of the peptidyl component of the chemosensor by replacement of the 2nd residue with .beta.-alanine has enhanced the Cu(II) binding selectivity of the motif. The resulting chemosensor (4) can be used in aq. soln. at neutral pH to measure 100 nM increments of Cu(II), with a linear response between 100 nM and 1000 nM Cu(II). For a 10 .mu.M soln. of 4, the presence of an equiv. each of Mn(II), Fe(II), Co(II), Ni(II), Zn(II), Cd(II), Mg(II), and Ca(II) produces only minimal (<4%) change in **fluorescence**. Finally, to expand the utility of these chemosensors, attachment of 4 to a water-solvated solid **phase** was performed and the **fluorescence** response of this material to solns. contg. several divalent metal cations demonstrated.

L26 ANSWER 24 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:702336 HCAPLUS
DN 127:305011
TI Biochemical Detection for Direct Bead Surface Analysis
AU Lutz, E. S. M.; Irth, H.; Tjaden, U. R.; van der Greef, J.
CS Division of Analytical Chemistry Leiden/Amsterdam Center for Drug Research, Leiden University, Leiden, 2300 RA, Neth.
SO Anal. Chem. (1997), 69(23), 4878-4884
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
AB A continuous-flow biochem. detection system is presented which recognizes biol. active compds. immobilized to solid **phases**. This approach can be used to screen, for example, solid-**phase** combinatorial libraries for lead compds. Biochem. detection is performed by mixing a plug of a solid-**phase** suspension with labeled affinity protein. During a short reaction time, the labeled affinity protein will only bind to ligands, i.e., compds. with biol. activity. Hereafter, the free and bound labels are sepd. by means of a hollow fiber module. Quantitation of the free label is performed with a conventional flow-through **fluorescence** detector. Total assay time amts. to less than 3 min. Biochem. detection for direct bead surface anal. was developed for two model systems. The first model system used **fluorescence**-labeled avidin as affinity protein and its ligands biotin and iminobiotin immobilized to agarose as analytes. The second model system used **fluorescence**-labeled antisheep (Fab)2 fragments as **affinity** protein and different IgGs immobilized to agarose as **analytes**. The feasibility of this approach for recognition of solid-**phase** immobilized ligands was documented by screening 50 samples with a 100% hit rate.

L26 ANSWER 25 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:675221 HCAPLUS
DN 127:319278
TI Synthesis and biological activities of **fluorescent** acridine-containing HIV-1 nucleocapsid proteins for investigation of nucleic acid-NCp7 interactions
AU Dong, C. Z.; De Rocquigny, H.; Remy, E.; Mellac, S.; Fournie-Zaluski, M. C.; Roques, B. P.
CS Departement de Pharmacochimie Moleculaire et Structurale, INSERM U266 - CNRS URA D 1500, UFR des Sciences Pharmaceutiques et Biologiques, Paris, 75270, Fr.
SO J. Pept. Res. (1997), 50(4), 269-278
CODEN: JPERFA; ISSN: 1397-002X
PB Munksgaard
DT Journal
LA English
AB Specific interactions between the 72-amino acid nucleocapsid protein NCp7 of the human immunodeficiency virus, type 1 and the genomic RNA are essential for virus replication. Studies on the mechanism of action of NCp7 require a direct visualization of its complexes with **nucleic** acids and the **detn.** of binding **affinities**. To facilitate these investigations, **fluorescent** NCp7 derivs. were developed by introduction of (S)-.beta.-(9-acridinyl)alanine (Aca), obtained by a chiral synthetic method, into the NCp7 sequence. Three **fluorescent** NCp7 derivs. were obtained by introducing this amino acid at different positions. As shown by NMR, the three-dimensional structure of NCp7 is not altered by introduction of Aca. The **fluorescent** peptides were as potent as their precursors in interacting with nucleic acids and in promoting HIV-1 genomic RNA dimerization. Moreover, because of their **fluorescent** properties, these NCp7s can be used at submicromolar concns. to directly visualize and quantify protein-nucleic acid interactions in soln. or after gel electrophoresis. This could facilitate the development of new antiviral agents aimed at inhibiting the functions of NCp7 and studies on the intracellular traffic of NCp7 within the preintegration complex.

L26 ANSWER 26 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:656878 HCAPLUS
DN 127:328678
TI Two-**phase** optical assay
IN Saunders, Alexander; Zarowitz, Michael Allan
PA Chronomed, Inc., USA
SO U.S., 25 pp. Cont.-in-part of U.S. Ser. No. 73,450, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5674699	A	19971007	US 1994-361832	19941222
	CA 2164725	AA	19941222	CA 1994-2164725	19940608
PRAI	US 1993-73450		19930608		

AB A method and app. are provided for measuring an analyte in a sample comprising adding substantially transparent particles to a sample in soln.
or suspension, said particles having an **affinity** for said **analyte;** fractionating the particles from the soln. or suspension to form a particle-rich fraction and a substantially particle-free fraction; optically reading the particle-rich fraction at a first and a second wavelength; optically reading the substantially particle-free fraction at at least the first wavelength; and correlating the readings through the particle-rich fraction and the substantially particle-free fraction of the sample, with similar measurements in a particle-contg. "blank" to obtain a quant. detn. of the analyte originally present in the sample. The invention is esp. useful for measuring Hb and glycoHb in blood samples esp. for the control of glycemia in diabetes mellitus. A variation of the method can be used to test for antibodies to hepatitis virus and HIV in AIDS.

L26 ANSWER 27 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:641471 HCAPLUS
DN 127:327053
TI A competitive enzyme hybridization assay for plasma determination of phosphodiester and phosphorothioate antisense oligonucleotides
AU Deverre, Jean Robert; Boutet, Valerie; Boquet, Didier; Ezan, Eric; Grassi, Jacques; Grognet, Jean Marc
CS Service Pharmacologie Immunologie, Gif-sur-Yvette, F-91191, Fr.
SO Nucleic Acids Res. (1997), 25(18), 3584-3589
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB An enzyme competitive hybridization assay was developed and validated for detn. of mouse plasma concns. of a 15-mer antisense phosphodiester oligodeoxyribonucleotide and of two phosphorothioate analogs. Assays were performed in 96-well **microtiter** plates. The phosphodiester sense sequence was covalently bound to the microwells. The 5'-biotinylated antisense sequence was used as tracer. The principle of the assay involves competitive hydridization of tracer and antisense nucleotide to the solid **phase**-immobilized sense oligonucleotide. Solid **phase**-bound tracer oligonucleotide was assayed after reaction with a streptavidin-acetylcholinesterase conjugate, using the colorimetric method of Ellman. As in competitive enzyme immunoassays, coloration was inversely related to the amt. of analyte initially present in the sample. The limit of quantification was 900 pM for phosphodiester antisense oligonucleotide using a 100 .mu.l vol. of plasma without extn. Cross-reactivity was negligible after a four base deletion in either the 3' or 5' position. The assay was simple and sensitive, suitable for in vitro screening of oligonucleotide hybridization potency in biol. fluids and for measuring the plasma pharmacokinetics of phosphorothioate and phosphodiester sequences.

L26 ANSWER 28 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:473747 HCAPLUS
DN 127:80161
TI Immunological determination method
IN Pauly, Hans-Erwin; Peiseler-Mueller, Hanna
PA Behringwerke Aktiengesellschaft, Germany
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 781998	A2	19970702	EP 1996-118937	19961127
	EP 781998	A3	19980812		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, PT, SE				
	DE 19548375	A1	19970703	DE 1995-19548375	19951227
	CA 2193344	AA	19970628	CA 1996-2193344	19961218
	AU 9675497	A1	19970703	AU 1996-75497	19961223
	JP 09189698	A2	19970722	JP 1996-350404	19961227
PRAI	DE 1995-19548375		19951227		

AB An immunochem. method for the **detn.** of an **analyte** by a heterogeneous **competitive** method is disclosed that involves the following steps: (1) incubation of the analyte with a 1st, 2nd, and 3rd specific binding partner, wherein the 1st specific binding partner (e.g., an antibody or antibody fragment) is bound to a water-insol. solid **phase** and the 2nd specific binding partner (e.g., an antibody or antibody fragment) contains a signal-generating label (e.g., enzyme), and the analyte and the 1st and 2nd specific binding partners compete for binding to the 3rd specific binding partner (e.g., a specified amt. of the desired analyte); (2) sepn. of the unbound fraction of signal-generating label from the signal-generating label that is bound to the solid **phase** by means of the 3rd specific binding partner; (3) measurement of the signal generated by the bound portion of the label; and (4) detn. of the analyte concn. by comparison of the value found in step 3 with a std. curve either obtained under the same conditions or calcd. theor. An example shows the detn. of antibodies against hepatitis A virus (HAV) in blood serum samples by a competitive enzyme immunoassay according to a 1-step method by using **microtiter** plates coated with polyclonal anti-HAV antibodies, peroxidase-conjugated anti-HAV-specific monoclonal antibodies, and a specified amt. of the HAV antigen.

L26 ANSWER 29 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:145211 HCAPLUS
DN 126:140560
TI Method for **detecting nucleic** acid sequences using **competitive** amplification
IN Birkenmeyer, Larry; Mushahwar, Isa K.
PA Abbott Laboratories, USA
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9640996	A1	19961219	WO 1996-US8429	19960603
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5667974	A	19970916	US 1995-480220	19950607
	CA 2223823	AA	19961219	CA 1996-2223823	19960603
	EP 832281	A1	19980401	EP 1996-917000	19960603
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				
	JP 11506613	T2	19990615	JP 1996-501035	19960603
	US 5955598	A	19990921	US 1997-864404	19970528
PRAI	US 1995-480220	19950607			
	WO 1996-US8429	19960603			

AB A method is provided for quant. detecting the amt. of a target nucleic acid sequence which may be present in a test sample. A test sample which may contain a target nucleic acid sequence comprising target sequences X and Y is contacted with 2 primer sets, the first set being specific for target X and the second set being specific for target Y. The test sample also is contacted at the same time with an internal std. sequence IS, which is substantially derived from a combination of the first and second target sequences, and its corresponding oligonucleotide primers. Haptens are assocd. with the oligonucleotide primer sets in such a way that amplified target sequence products X and Y are detected by capture on a solid **phase** to which anti-hapten capture reagents are attached. A signal ratio of (X + Y)/S is detd. to quantitate the amt. of the target nucleic acid sequence contained in the sample. The technique is applied to the quant. detn. by gap ligase chain reaction (GLCR) of the DNA of hepatitis B virus, and primer sets are provided for (1) map positions 180-225 and 658-703 within the HBV genome, (2) distinguishing the wild-type and mutant codon 145 of the HBV S-gene, and (3) distinguishing the wild-type and mutant codon 28 of the HBV precore antigen gene.

L26 ANSWER 30 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:48746 HCAPLUS
DN 126:57085
TI Sensor platform and method for the parallel detection of a plurality of analytes using evanescently excited luminescence
IN Neuschaefer, Dieter; Duveneck, Gert Ludwig; Pawlak, Michael; Pieles, Uwe; Budach, Wolfgang
PA Ciba-Geigy A.-G., Switz.; Neuschaefer, Dieter; Duveneck, Gert Ludwig; Pawlak, Michael; Pieles, Uwe; Budach, Wolfgang
SO PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9635940	A1	19961114	WO 1996-EP1817	19960502
	W: AL, AU, BB, BG, BR, CA, CN, CZ, EE, GE, HU, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2219769	AA	19961114	CA 1996-2219769	19960502
	AU 9657632	A1	19961129	AU 1996-57632	19960502
	EP 824684	A1	19980225	EP 1996-914164	19960502
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
	JP 11505610	T2	19990521	JP 1996-533714	19960502
	BR 9608503	A	19990706	BR 1996-8503	19960502
	ZA 9603731	A	19961112	ZA 1996-3731	19960510
	US 6078705	A	20000620	US 1997-945588	19971028
PRAI	CH 1995-1396	19950512			
	WO 1996-EP1817	19960502			

AB The invention relates to a sensor platform based on .gtoreq.2 planar, sep., inorg. dielec. waveguiding regions on a common substrate and to a method for the parallel evanescent excitation and detection of the luminescence of identical or different analytes. The invention relates also to a modified sensor platform that consists of the sensor platform having the planar, sep., inorg. dielec. waveguiding regions and .gtoreq.1 org. **phases** immobilized thereon. A further subject of the invention is the use of a sensor platform or of the modified sensor platform in a luminescence detection method for quant. affinity sensing and for the selective quant. detn. of luminescent constituents of optically opaque solns.

L26 ANSWER 31 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:572085 HCAPLUS
DN 125:216375
TI **Competitive** immunoassay using complexed **analyte** derivatives
IN Neuenhofer, Stephan; Skrzipczyk, Heinz-Juergen; Molz, Peter; Kaesmarker, Reinhard
PA Behringwerke Aktiengesellschaft, Germany
SO Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 726464	A1	19960814	EP 1996-100267	19960110
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, PT, SE				
DE 19504198	A1	19960814	DE 1995-19504198	19950209
AU 9644400	A1	19960815	AU 1996-44400	19960207
CA 2169121	AA	19960810	CA 1996-2169121	19960208
JP 08248029	A2	19960927	JP 1996-22194	19960208
PRAI DE 1995-19504198		19950209		

AB The invention concerns a method for detection of an analyte (e.g., thyroxine, triiodothyronine, estradiol, etc.) in a biol. sample by a **competitive** immunoassay in the presence of an **analyte** deriv. (e.g, a hormone-protein conjugate) and also a kit for performing the assay. The invention eliminates disadvantages obsd. in earlier assays of the same kind. The analyte deriv. is a substance that cross-reacts with a receptor mol. that is directed against the analyte, and the receptor mol. is a mol. that has a binding site for another mol., e.g., the analyte. Examples of receptor mols. are hormone receptors or antibodies. The method includes these steps: (1) incubation of an analyte deriv. with an analyte-contg. sample as well as a first receptor mol. that is specific for the analyte and the analyte deriv. wherein the incubation mixt. also contains a second receptor mol. that binds specifically to the analyte deriv. or the analyte deriv. and the analyte; (2) sepn. of the first receptor mol. that is not bound to the analyte deriv. or (2') sepn. of the analyte deriv. that is not bound to the first receptor mol.; and (3) detection of the first receptor mol. bound to the analyte deriv. or of the analyte deriv. bound to the first receptor mol. Step 2 is done if the analyte deriv. is bound to a solid **phase**, and step 2' is done if the first receptor mol. is bound to a solid **phase**. The receptor mol. or the analyte deriv. may be labeled with a radioisotope, chemiluminescent label, enzyme, biotin, etc.

L26 ANSWER 32 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:191934 HCAPLUS
DN 124:219242
TI Flow Immunoassay Using Solid-**Phase** Entrapment
AU Locascio-Brown, Laurie; Martynova, Larissa; Christensen, Richard G.; Horvai, George
CS National Institute of Standards and Technology, Gaithersburg, MD, 20899, USA
SO Anal. Chem. (1996), 68(9), 1665-70
CODEN: ANCHAM; ISSN: 0003-2700
DT Journal
LA English
AB A flow injection immunoassay was performed using a column packed with reversed-**phase** sorbents to effect sepn. of the immunoreacted species by entrapping free analyte and allowing antibody-conjugated analyte to pass unretained. **Fluorescein**-labeled **analyte** was measured in a **competitive assay** for phenytoin. The simplicity of the assay was the greatest advantage of the technique, which allowed for measurement of phenytoin in a 2-min assay time. The reliable detection limit for the assay was 5 nmol L-1 of phenytoin in serum. The columns were regenerated with periodic injections of ethanol solns. to remove the entrapped analyte and prep. the column for subsequent analyses.

L26 ANSWER 33 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:404522 HCAPLUS
DN 121:4522
TI Bridge immunoassay
IN LaMotte, George B., III
PA Ciba Corning Diagnostics Corp., USA
SO U.S., 24 pp. Cont. of U.S. Ser. No. 653,024, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5296347	A	19940322	US 1993-14092	19930204
PRAI	US 1991-653024		19910208		

AB Disclosed is a bridge immunoassay, which employs a primary free soln. **analyte**/receptor binding reaction, for example, in a **sandwich**-type format (two or more **analyte** receptors), in a **competitive** format (single **analyte** receptor), or in a related immunoassay format, and a universal solid **phase** and capture system. The universal capture system comprises a first receptor bound to a solid **phase** and a bridge receptor (a second receptor) which functions both as a ligand for the bound first receptor and as a receptor for a ligand conjugated to a sample analyte receptor (a third receptor). The bridge receptor is used to immobilize the immunocomplexes formed free in soln. by linking them to the bound first receptor. The universal capture system can be used for assays for any analyte as the bridge receptor binds to a ligand, for example, a hapten or binding protein, conjugated to the sample analyte receptor. Methods, compns. and test kits for such bridge immunoassays are provided. A sandwich EIA for serum c-erbB-2 protein is described which uses both mouse anti-c-erbB-2 monoclonal antibodies conjugated to either the hapten FITC or to horseradish peroxidase, c-erbB-2 calibrators and controls, a biotinylated mouse monoclonal antibody to FITC as the bridge receptor, and polystyrene tubes coated with streptavidin.

L26 ANSWER 34 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:70883 HCAPLUS
DN 120:70883
TI Process for immobilizing nucleic acid probes on polystyrene surfaces
IN Sheridan, Patrick; Chang, Chu An; Running, Joyce
PA Chiron Corp., USA
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9313224	A1	19930708	WO 1992-US11343	19921222
	W: AU, CA, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5747244	A	19980505	US 1991-813338	19911223
	AU 9334276	A1	19930728	AU 1993-34276	19921222
	EP 620864	A1	19941026	EP 1993-902855	19921222
	EP 620864	B1	20000329		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	AT 191237	E	20000415	AT 1993-902855	19921222
	US 5712383	A	19980127	US 1995-438639	19950510
PRAI	US 1991-813338		19911223		
	WO 1992-US11343		19921222		

AB The title process comprises (a) treatment of polystyrene sequentially with strong acid (e.g. HCl), strong base (e.g. alkali metal hydroxide), and water; (b) adsorption of a polymer (e.g. polypeptide) onto the cleansed polystyrene surface; and (c) immobilization of the nucleic acid probe through covalent binding via a base-stable linkage. Thus, polystyrene **microtiter** plates were treated with HCl and NaOH and coated with poly(Phe-Lys). An oligonucleotide with a 5' N4-(6-aminocaproyl-2-aminoethyl) deriv. of cytidine was activated with disuccinimidyl suberate and then coupled to the polypeptide-coated plates. A comb-type oligonucleotide multimer having 15 branch sites and sidechain extensions with 3 labeled oligonucleotide binding sites was also prepd. The probe-immobilized plate and multimer together with amplifier probes (contg. oligonucleotides with a region complementary to the target sequence and a region complementary to a segment of the multimer) and capture probes (contg. oligonucleotides with a region complementary to the target and a region complementary to the immobilized probe) were used in a soln. **phase** nucleic acid hybridization assay for detecting hepatitis C virus E1 gene (RNA) and hepatitis B virus DNA.

L26 ANSWER 35 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:226641 HCAPLUS
DN 118:226641
TI Solid-**phase** time-resolved **fluorescence** detection of human immunodeficiency virus polymerase chain reaction amplification products
AU Bush, Charlene E.; Di Michele, Luke J.; Peterson, W. Rich; Sherman, David G.; Godsey, James H.
CS Dep. Mol. Diagn., Baxter Diagn. Inc., West Sacramento, CA, 95691, USA
SO Anal. Biochem. (1992), 202(1), 146-51
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
AB A new assay system for the detection of polymerase chain reaction (PCR) amplification products is presented. This single-pot sandwich assay system employs solid-support oligonucleotide-coated capture beads, a rare earth metal chelate-labeled probe, and a time-resolved **fluorescence** detection. The new assay system was evaluated for various reaction conditions including, DNA denaturation time, hybridization salt concn., probe concn., and hybridization time, all of which are important in designing an assay with a high level of sensitivity for the detection of duplex DNA. This nonisotopic assay system was applied to the detection of purified human immunodeficiency virus (HIV) DNA and sensitivity was compared with agarose gel electrophoresis and slot blot hybridization using a 32P-labeled probe. The authors were able to detect the amplified product from one copy of HIV DNA after 35 cycles of PCR amplification in less than 30 min using this assay, which compared with one copy by gel electrophoresis after 40 cycles of PCR amplification and one copy by slot blot hybridization after 35 cycles of PCR amplification and an overnight exposure of the autoradiogram. Thus, this assay is rapid, sensitive, and easy to use.

L26 ANSWER 36 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:585010 HCAPLUS
DN 117:185010
TI Multianalyte immunoassay based on spatially distinct **fluorescent** areas quantified by laser-excited solid-**phase** time-resolved **fluorometry**
AU Kakabakos, Sotiris E.; Christopoulos, Theodore K.; Diamandis, Eleftherios P.
CS Dep. Clin. Biochem., Toronto West. Hosp., Toronto, ON, M5T 2S8, Can.
SO Clin. Chem. (Winston-Salem, N. C.) (1992), 38(3), 338-42
CODEN: CLCHAU; ISSN: 0009-9147
DT Journal
LA English
AB A new multianalyte immunoassay principle is described and applied to the simultaneous immunoassay of lutropin, follitropin, choriogonadotropin, and prolactin in serum. The method is based on the coating of distinct areas of polystyrene with analyte-specific antibodies. These antibodies react with the analyte and immobilize it in a specific area while another biotinylated antibody also reacts with the **analyte** to form a **sandwich**. After addn. of streptavidin labeled with the **fluorescent** europium chelate of 4,7-bis(chlorosulfophenyl)-1,10-phenanthroline-2,9-dicarboxylic acid, **fluorescent** areas are formed, the intensity of which is related to the amt. of each analyte present in the sample. The **fluorescent** areas are quantified on the dry solid **phase** with laser-excited time-resolved **fluorometric** measurements. The assays developed are highly sensitive, precise, and accurate. Evidently, this system shows potential for multianalyte immunoassay of diverse groups of compds. in disciplines such as endocrinol., infectious disease, hematol., and oncol.

L26 ANSWER 37 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:455183 HCAPLUS
DN 113:55183
TI Development of antibody-based fiber optic sensors
AU Tromberg, B. J.
CS Oak Ridge Assoc. Univ., Inc., Oak Ridge, TN, USA
SO Report (1988), DOE/OR/00033-T425; Order No. DE89010613, 174 pp. Avail.: NTIS
From: Energy Res. Abstr. 1989, 14(13), Abstr. No. 27186
DT Report
LA English
AB **Fluoroimmunosensors** (FIS) employ an immobilized reagent **phase** at the sampling terminus of a single quartz optical fiber. Laser excitation of antibody-bound analyte produces a **fluorescence** signal which is either directly proportional (as in the case of natural **fluorophor** and antibody sandwich **assays**) or inversely proportional (as in the case of **competitive**-binding **assays**) to **analyte** concn. Factors which influence anal. time, precision, linearity, and detection limits include the nature (solid and liq.) and amt. of the reagent **phase**, the method of analyte delivery (passive diffusion, forced convection, etc.), and whether equil. or non-equil. assays are performed. Data will be presented for optical fibers whose sensing termini utilize: (1) covalently-bound solid antibody reagent **phases**, and (2) membrane-entrapped liq. and solid antibody reagents. Assays for large-mol. wt. proteins (antigens) and small-mol.-wt., carcinogenic, polynuclear aroms. (haptens) will be considered. In this matter, the influence of a system's chem. characteristics and measurement requirements on sensor design, and the consequence of various sensor designs on anal. performance will be illustrated.

L26 ANSWER 38 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:115340 HCAPLUS
DN 112:115340
TI Paralog substrates for affinity chromatography, their selection, and their use
IN Kauvar, Lawrence M.
PA Terrapin Diagnostics, Inc., USA
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 18

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8909088	A1	19891005	WO 1989-US1194	19890323
	W: AU, BR, DK, FI, HU, JP, KR, NO, RO, SU				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8933537	A1	19891016	AU 1989-33537	19890323
	AU 628812	B2	19920924		
	EP 438402	A1	19910731	EP 1989-904386	19890323
	EP 438402	B1	19980610		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 03505120	T2	19911107	JP 1989-503913	19890323
	HU 63587	A2	19930928	HU 1989-2121	19890323
	CA 1339768	A1	19980324	CA 1989-594691	19890323
	AT 167301	E	19980615	AT 1989-904386	19890323
	US 4963263	A	19901016	US 1989-355042	19890516
	US 5340474	A	19940823	US 1993-49642	19930409
	US 5409611	A	19950425	US 1993-116059	19930902
	US 5567317	A	19961022	US 1995-401445	19950309

PRAI US 1988-172626 19880324
US 1988-255906 19881011
WO 1989-US1194 19890323
US 1989-355042 19890516
US 1989-429721 19891031
US 1990-607875 19901101
US 1993-49642 19930409
US 1993-116059 19930902

AB Substrates for paralog affinity chromatog. comprise a solid support conjugated, optionally through a linking arm, to a paralog (a peptide of 4-20 amino acids with specific **affinity** for an **analyte** or hapten, by mimicking the spatial conformation and electron distribution pattern of the binding site of the antibody that would be raised to the analyte or hapten). Suitable paralogs are identified with a screening procedure for candidate peptide sequences. Methods of paralog affinity chromatog. are described; the immobilized paralog can be used for anal. or purifn. of analytes, including nonpeptide analytes, e.g. for removal of environmental toxins. Paralogs may also substitute for antibodies in std. immunoassay protocols. Thus, a panel of 88 pentapeptides, chosen on the basis of decreasing hydrophobicity and periodic variation in hydrophobic

moment, are 1st screened with a 125I-labeled trypsin hydrolyzate of a yeast lysate mixt. Binding values are normalized to 100%, and the panel is retested with defined amts. of analyte. A small no. of candidates show greatly decreased labeling (no data).

L26 ANSWER 39 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:586821 HCAPLUS
DN 109:186821
TI Determination of analyte concentration by back-titration receptor-binding assay using two labeling markers
IN Ekins, Roger Philip
PA UK
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8801058	A1	19880211	WO 1987-GB558	19870806
	W: AU, BR, DK, FI, HU, JP, KR, NO, SU, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8777559	A1	19880224	AU 1987-77559	19870806
	AU 614935	B2	19910919		
	ZA 8705825	A	19880427	ZA 1987-5825	19870806
	EP 271974	A1	19880622	EP 1987-306995	19870806
	EP 271974	B1	19930303		
	R: ES, GR				
	EP 318491	A1	19890607	EP 1987-905234	19870806
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 01503405	T2	19891116	JP 1987-504712	19870806
	CA 1284620	A1	19910604	CA 1987-543928	19870806
	AT 86385	E	19930315	AT 1987-306995	19870806
	ES 2039444	T3	19931001	ES 1987-306995	19870806
	NO 8801241	A	19880321	NO 1988-1241	19880321
	NO 172517	B	19930419		
	NO 172517	C	19930728		
	DK 8801830	A	19880405	DK 1988-1830	19880405
	CA 1334278	A1	19950207	CA 1988-573974	19880805
	ZA 8805825	A	19890426	ZA 1988-5825	19880808
	FI 8900526	A	19890203	FI 1989-526	19890203
	FI 92881	B	19940930		
	US 5171695	A	19921215	US 1989-317471	19890203
	FI 92881	C	19950110	FI 1989-526	19890203

PRAI GB 1986-19206 19860806
EP 1987-306995 19870806
WO 1987-GB558 19870806
ZA 1987-5825 19870806
GB 1988-3000 19880210

AB To measure the concn. of an analyte in a liq. sample, the sample is contacted with a receptor mol. having binding sites for the analyte and labeled with a 1st marker, whereby a fraction of the binding sites on the receptor mol. become occupied by the analyte, the sample being contacted with such a small amt. of the receptor, having regard to its **affinity** const. with the **analyte**, that only an insignificant fraction of the **analyte** becomes bound to the receptor. The receptor having fractionally occupied binding sites is then back-titrated with a system including a 2nd marker different from the 1st,

and the relative strengths of the 2 signals produced by the 2 markers are measured to provide a value representative of the fractional occupancy of the binding sites on the receptor mol. by the analyte. This value is compared with .gtoreq.1 corresponding values obtained in the same way using >1 std. liq. samples of known analyte concn. An anal. device suitable for use in such a method comprises an extended solid substrate bearing at a plurality of spaced-apart locations, a plurality of different receptors each having binding sites for different analytes, each of the receptors being optionally labeled with a marker. This device can be used as part of a kit for the method. T4 was detd. in serum by adsorption on a Bio-Rad AG1.times.2 column, elution with 70% AcOH, diln. with HEPES buffer to an estd. T4 concn. of 0.5-1.5 ng/mL, and incubated with immobilized 131I-labeled anti-T4 antibody and a tracer amt. of 125I-labeled T4. The 125I/131I ratio on the solid **phase** was measured and compared with a std. curve obtained with known T4 concns. Assay results were little affected by variations in the amt. of immobilized antibody or the sample vol.

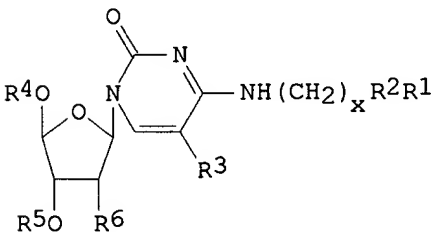
L26 ANSWER 40 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:215714 HCAPLUS
DN 108:215714
TI Highly sensitive immunoliposome assay of theophylline
AU Glagasigij, Usa; Sato, Yukio; Suzuki, Yasuo
CS Pharm. Inst., Tohoku Univ., Sendai, 980, Japan
SO Chem. Pharm. Bull. (1988), 36(3), 1086-94
CODEN: CPBTAL; ISSN: 0009-2363
DT Journal
LA English
AB A highly sensitive and reproducible immunoassay method for detn. of theophylline was developed by using large unilamellar liposomes. Vesicles incorporating theophylline-phosphatidylethanolamine conjugate on the membrane surface as a sensitizer and including a **fluorescent** marker, calcein, were prepd. by the reverse-**phase** evapn. method from mixts. of phosphatidylcholines contg. various fatty acids and cholesterol. **Competitive** binding of specific antibody to the **analyte** drug and the sensitizer on the liposomal membrane resulted in lysis of liposomes, and consequently the amt. of entrapped calcein that leaked out was inversely proportional to the concn. of the analyte. From studies of various parameters affecting liposome lysis, it was concluded that the chain length of fatty acid most strongly affected the calcein release. The proposed system is simple, rapid, precise, and sensitive to nanomolar concns. of theophylline. Furthermore, the sensitized liposomes were stable and gave reproducible results. The principle of this assay should be applicable to routine anal. of a wide variety of drugs in biol. samples for the purpose of clin. diagnosis or monitoring.

L26 ANSWER 41 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:180235 HCAPLUS
DN 108:180235
TI New approach to **competitive** lanthanide immunoassay: time-resolved **fluoroimmunoassay** of progesterone with labeled **analyte**
AU Dechaud, Henri; Bador, Rene; Claustrat, Francine; Desuzinges, Claude; Mallein, Rene
CS Fac. Pharm., Univ. Claude Bernard, Lyon, 69373, Fr.
SO Clin. Chem. (Winston-Salem, N. C.) (1988), 34(3), 501-4
CODEN: CLCHAU; ISSN: 0009-9147
DT Journal
LA English
AB A solid-**phase** competitive Eu immunoassay of progesterone in plasma which relies on antigen labeling is described. With this approach, time-resolved **fluoroimmunoassay** can attain sensitivity and precision similar to that of conventional RIA. The Eu labeling involves coupling diethylenetriaminepentaacetic acid (chelating agent for Eu3+) to a progesterone-protein conjugate. The solid-**phase** antibody is immobilized inside polystyrene tubes in which plasma samples (50 .mu.L) are assayed directly, without preliminary extn. After incubation in the presence of TCA, the tubes are washed and the **fluorescence** intensity of Eu is measured by time-wavelength-resolved **fluorometry**, with a N laser as the pulsed excitation source. Progesterone values obtained by this procedure agreed well with those obtained by RIA. The detection limit was equiv. to that of most RIAs (0.2 .mu.g/L).

L26 ANSWER 42 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:91386 HCAPLUS
DN 108:91386
TI Solution **phase nucleic** acid **sandwich** **assay** and kit, polynucleotide probes useful therein, and their preparation
IN Urdea, Michael Steven; Warner, Brian; Horn, Thomas
PA Chiron Corp., USA
SO Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 225807	A2	19870616	EP 1986-309622	19861210
	EP 225807	A3	19880907		
	EP 225807	B1	19941019		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
	US 4868105	A	19890919	US 1985-807624	19851211
	CA 1303033	A1	19920609	CA 1986-524568	19861204
	EP 423839	A2	19910424	EP 1990-121584	19861210
	EP 423839	A3	19910925		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
	ES 2061441	T3	19941216	ES 1986-309622	19861210
	JP 62188970	A2	19870818	JP 1986-296524	19861211
	US 5093232	A	19920303	US 1986-945876	19861223
	US 4910300	A	19900320	US 1988-190698	19880505
	CA 1317207	A1	19930504	CA 1991-616159	19910910
	JP 06339378	A2	19941213	JP 1993-233589	19930920
PRAI	US 1985-807624	19851211			
	CA 1986-524568	19861204			
	US 1986-945876	19861223			

GI



I

AB A method and compn. for rapid detection of nucleic acid sequences employs 2 reagent sets. The 1st set is a labeling set comprising: (1) a 1st nucleic acid sequence probe having an analyte-complementary region and a 1st recognition sequence region and (2) a labeled sequence complementary to the 1st recognition sequence region. The 2nd set is a capturing set

comprising: (1) a 2nd nucleic acid sequence probe having an analyte-complementary region and a 2nd recognition sequence region, (2) a specific binding pair member conjugated to a sequence complementary to the 2nd recognition sequence, and (3) a sepg. means to which is bound a complementary specific binding pair member. The sample and probes are combined under annealing conditions, followed by addn. of the other reagents, sepn. of the bound label from the supernatant, and detection of the label in either **phase**. Modified, derivatizable nucleotides I (R1 = reactive group; R2 = optional linker contg. an amide, thioether, and/or SS linkage; R3 = H, Me, Br, F, I; R4 = H, acyl, R; R = acid-sensitive base-stable blocking group; R5 = H, P deriv.; R6 = H, OH, R; x = 1-8) are prepd. which may be incorporated into the probes and coupled to a **fluorophore** or other detectable label. I (R1R2 = NH2, R3-R6 = H, x = 2) was prepd. from protected deoxyuridine by conversion to the 4-tetrazolyl deriv. and displacement with ethylene diamine, and was incorporated by std. coupling procedures into a synthetic oligonucleotide which was then labeled with a FITC-6-aminocaproic acid conjugate (activated with N-hydroxysuccinimide) to provide a **fluorescent**-labeled probe. Six different sequences complementary to different sequences in the hepatitis B virus (HBV) genome, were joined to a common sequence (A) for complexing with the above labeled probe (the 2 forming the labeling set), and six other sequences complementary to other regions of the HBV genome were conjugated to a different common sequence (B) for complexing to a synthetic 50-residue polynucleotide immobilized on hydroxylated latex (the 2 forming the capturing set). The labeling and capturing probe sets were used for **fluorometric** detection of HBV DNA.

L26 ANSWER 43 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:17223 HCAPLUS
DN 108:17223
TI Sensitive detection of genes by sandwich hybridization and time-resolved **fluorometry**
AU Dahlen, Patrik; Syvanen, Ann Christine; Hurskainen, Pertti; Kwiatkowski, Marek; Sund, Christian; Ylikoski, Jyrki; Soderlund, Hans; Lovgren, Timo
CS Wallac Oy, Turku, SF-20101, Finland
SO Mol. Cell. Probes (1987), 1(2), 159-68
CODEN: MCPRE6; ISSN: 0890-8508
DT Journal
LA English
AB Europium has been used as a non-radioactive marker in immunoassays, as this metal can be detected with high sensitivity by time-resolved **fluorometry**. Streptavidin-labeled with europium was used to **detect** biotinylated probes in a **sandwich nucleic** acid hybridization **assay** with **microtitration** strips as the solid **phase**. The pBR322 plasmids were detected with a sensitivity of 4 .times. 105 mols. As the sample is added in soln. in sandwich hybridization, fast and simple sample pre-treatment can be used without encountering background problems. The method was applied to test bacterial samples of uropathogenic Escherichia coli strains for the presence of the .beta.-lactamase gene.

L26 ANSWER 44 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:46889 HCAPLUS
DN 106:46889
TI Method and compositions for visual solid **phase** immunoassays based on luminescent microspheric particles
IN Pourfarzaneh, M. T.; Khalil, H. Mohammed
PA Whittaker Corp., USA
SO Eur. Pat. Appl., 34 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 201211	A1	19861112	EP 1986-302608	19860409
	R: DE, FR, GB, IT				
	JP 61286755	A2	19861217	JP 1986-83211	19860410
PRAI	US 1985-721574		19850410		

AB An analyte is detected by immunoassay with microspheres which are labeled with a substance having an **affinity** for the **analyte** and contain a luminescent substance. For example, human .alpha.-interferon was detected by an sandwich-type assay in which **microtiter** wells were coated with monoclonal antibody to human leukocyte interferon. **Fluorescent** microspheres were coated with a 2nd monoclonal antibody to human interferon. The wells were incubated with samples contg. interferon, washed, incubated with the antibody-labeled microspheres, and washed again. Wells showing **fluorescence** in a light box were considered pos.

L26 ANSWER 45 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1986:568217 HCAPLUS
DN 105:168217
TI A highly sensitive immunoenzymometric assay involving "common-capture" particles and membrane filtration
AU Kang, J.; Kaladas, P.; Chang, C.; Chen, S.; Dondero, R.; Frank, A.; Huhn, S.; Lisi, P.; Mochnal, D.; et al.
CS Ortho Diagn. Syst., Inc., Raritan, NJ, 08869, USA
SO Clin. Chem. (Winston-Salem, N. C.) (1986), 32(9), 1682-6
CODEN: CLCHAU; ISSN: 0009-9147
DT Journal
LA English
AB This highly sensitive immunoenzymometric assay method involves monoclonal antibodies, a common-capture microsphere, and a rapid, membrane-filtration sepn. step. The common-capture solid **phase** is monoclonal anti-**fluorescein** antibody covalently attached to 6.5-.mu.m-diam. latex particles. In **sandwich**-type **assays** for large-mol. **analytes**, the capture antibody is conjugated with **fluorescein** isothiocyanate and the probe antibody is conjugated with .beta.-galactosidase (EC 3.2.1.23). In **competitive assays** for small **analytes**, the **analyte** -.beta.-galactosidase conjugate competes with the **analyte** in the clin. samples for the **fluoresceinated** capture antibody. After simultaneous incubation of the reagents for 2 h, the bound and unbound reagents are sepd. by filtration through the bottom of each well of a 96-well plate. Substrate (4-methylumbelliferyl-.beta.-D-galactopyranoside) is then added to the wells, and the rate of product formation is detd. kinetically for 12 min. The rate is proportional to the concn. of **analyte** in the **sandwich assays** and inversely proportional in the **competitive assays**. The assay results for choriogonadotropin, TSH, digoxin, and T4 show the assay to be sensitive, rapid, and applicable to any size analyte. With this system, several different sandwich and(or) competitive-type assays can be performed simultaneously on the same plate.

L26 ANSWER 46 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1986:31397 HCAPLUS
DN 104:31397
TI Diagnosis of gene abnormalities by restriction mapping using a sandwich hybridization format
IN Monahan, John E.; Ip, Stephen H. C.; Rittershaus, Charles
PA Ortho Diagnostic Systems, Inc., USA
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 154505	A2	19850911	EP 1985-301325	19850227
	EP 154505	A3	19870930		
	EP 154505	B1	19920930		
	R: DE, FR, GB				
PRAI	US 1984-584415		19840228		

AB In an assay for detecting the presence or absence of a particular genetic sequence in a nucleic acid strand, double-stranded sample nucleic acid is reacted with a restriction endonuclease whose activity depends on the presence or absence of the particular base sequence to be detected at the restriction site. The DNA is denatured and reacted with an immobilized nucleic acid probe and a labeled (e.g. with radioisotope) nucleic acid probe, each of which hybridizes on either side of the restriction site. Sepn. of the aq. and solid **phases** is effected and measurement of the label in either **phase** is related to the presence or absence at the restriction site of the particular base sequence.

L26 ANSWER 47 OF 75 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:188419 HCAPLUS
DN 100:188419
TI Immunoassay wherein labeled antibody is displaced from immobilized analyte-analog
IN Freytag, J. William
PA du Pont de Nemours, E. I., and Co. , USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4434236	A	19840228	US 1982-435454	19821020

AB A method for the rapid detn. of analytes in a sample is provided. The sample is contacted with a solid **phase** having immobilized thereon an analyte-analog to which there is displaceably bound a labeled antianalyte antibody. Because the antibody has greater **affinity** for the **analyte** than the **analyte**-analog the labeled antibody is displaced from the solid **phase**. The complex is sepd. from the solid **phase**, and the amt. of complex is measured. The measured amt. is related to the amt. of analyte initially present in the sample. The analyte is a protein, peptide, hormone, drug, vitamin, cell antigen, tissue antigen, bacterium, or virion; the labeled antibody is a monovalent antibody selected from the group consisting of Fab, Fab', and half-mols.; and the label is an enzyme, chromophore, **fluorophore**, chemiluminescent material, radioisotope, or coenzyme. Digoxin was detd. in human blood serum by EIA as an example.

L26 ANSWER 48 OF 75 BIOSIS COPYRIGHT 2001 BIOSIS
AN 2001:43902 BIOSIS
DN PREV200100043902
TI Analysis and purification of nucleic acids by ion-pair reversed-**phase** high-performance liquid chromatography.
AU Hecker, Karl H. (1); Green, Stacy M.; Kobayashi, Kaoru
CS (1) Transgenomic Inc., 2032 Concourse Drive, San Jose, CA, 95131: khecker@transgenomic.com USA
SO Journal of Biochemical and Biophysical Methods, (20 November, 2000) Vol. 46, No. 1-2, pp. 83-93. print.
ISSN: 0165-022X.
DT Article
LA English
SL English
AB Sizing of DNA fragments is a routine analysis traditionally performed on agarose or polyacrylamide gels. Electrophoretic analysis is labor-intensive with only limited potential for automation. Recovery of DNA fragments from gels is cumbersome. We present data on automated, size-based separation of DNA fragments by ion-pair reversed-**phase** high performance liquid chromatography (IP RP HPLC) - DNA chromatography
-
on the WAVE(R) DNA Fragment Analysis System with the DNASep(R) cartridge. This system is suitable for accurate and rapid sizing of double-stranded (ds) DNA fragments from 50 to ca. 2000 base pairs (bp). **Fluorescently** labeled DNA fragments are compatible with the technology. Length-dependent separation of dsDNA fragments is sequence independent and retention times are highly reproducible. The resolving capabilities of DNA chromatography are illustrated by the analysis of multiple DNA size markers. Resolved dsDNA fragments are easily collected and are suitable for downstream applications such as sequencing and cloning. DNA chromatography under denaturing conditions with **fluorescently** labeled DNA fragments offers a means for the separation and purification of individual strands of dsDNA. Analysis of DNA fragments on the WAVE System is highly automated and requires minimal manual intervention. DNA chromatography offers a reliable and automated alternative to gel electrophoresis for the analysis of DNA fragments.

L26 ANSWER 49 OF 75 BIOSIS COPYRIGHT 2001 BIOSIS
AN 2000:381407 BIOSIS
DN PREV200000381407
TI High-performance liquid chromatography coupled to enzyme-amplified biochemical detection for the analysis of hemoglobin after pre-column biotinylation.
AU van Bommel, M. R.; de Jong, A. P. J. M.; Tjaden, U. R.; Irth, H. (1); dan der Greef, J.
CS (1) Department of Analytical Chemistry and Applied Spectroscopy, Division of Chemistry, Vrije Universiteit Amsterdam, De Boelelaan 1083, 1081 HV, Amsterdam Netherlands
SO Journal of Chromatography A, (21 July, 2000) Vol. 886, No. 1-2, pp. 19-29.
print.
ISSN: 0021-9673.
DT Article
LA English
SL English
AB The determination of proteins with enzyme-amplified biochemical detection (EA-BCD) coupled on-line with high-performance liquid chromatography (HPLC) is demonstrated. The EA-BCD system was developed to detect biotin-containing compounds. Hemoglobin, which was used as a model compound, was biotinylated prior to sample introduction. Several biotinylation parameters, such as pH and removal of excess biotinylation reagent, were investigated. After biotinylation samples were introduced to HPLC followed by EA-BCD. To the HPLC effluent, alkaline phosphatase label streptavidin (S-AP) was added, which possesses high affinity to biotin and biotin-containing compounds. Excess S-AP was removed by means of an immobilized biotin column followed by substrate addition. The non-**fluorescent** substrate is converted to a highly **fluorescent** product by the enzyme label. A detection limit of 2 femtomol biotinylated Hb was achieved with good reproducibility and linearity. However, biotinylation at low **analyte** concentration suffers from low yield due to slow **reaction kinetics**. Finally, Hb was successfully extracted from urine with a recovery of 94%.

L26 ANSWER 50 OF 75 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1999:317122 BIOSIS
DN PREV199900317122
TI Assessment of an automated solid **phase** competitive **fluoroimmunoassay** for benzoylecgonine in untreated urine.
AU O'Connell, Kevin P.; Valdes, James J.; Azer, Nehad L.; Schwartz, Robert P.; Wright, Jeremy; Eldefrawi, Mohyee E. (1)
CS (1) Department of Pharmacology and Experimental Therapeutics, University of Maryland School of Medicine, 655 West Baltimore St., Rm. 4-027, Baltimore, MD, 21201 USA
SO Journal of Immunological Methods, (May 27, 1999) Vol. 225, No. 1-2, pp. 157-169.
ISSN: 0022-1759.
DT Article
LA English
SL English
AB A new solid **phase fluoroimmunoassay** using a fully automated flow **fluorometer** adapted for urinalysis of drug metabolites is described. **Fluorescein**-conjugated benzoylecgonine (FL-BE) and monoclonal antibodies (mAb) against benzoylecgonine (BE) were the reagents used for demonstration. The solid **phase** consisted of anti-BE mAbs immobilized on the surface of polymethyl methacrylate (PMMA) beads. Free BE in solution competed with FL-BE and reduced bead-bound **fluorescence** in a concentration-dependent manner. The binding of FL-BE to the anti-BE mAb reached steady-state within minutes. FL-BE was not bound by uncoated beads nor beads coated with non-specific proteins or IgG. The signal-to-noise ratio was 33, and the sensitivity of the assay was 2 ng ml-1 for BE. The effective concentration of BE was 1 to 100 ng ml-1, with an IC50 value of 12 ng ml-1. The mAb showed equal affinities for BE, cocaine, and cocaethylene, but a five order-of-magnitude lower affinity for ecgonine and ecgonine methylester. In a double-blind comparison using clinical urine samples, the data from this single-step competitive assay had excellent agreement with results obtained using a fiber-optic biosensor (FOB), and the EMIT assay performed commercially. The assay provided kinetic data rapidly and can be used to **detect** small **analytes** for which antibodies and **fluorescein** conjugates are available. The **affinity** of the mAb for FL-BE, calculated from kinetic **analysis** of the time course of the on and off reaction, was 2.25 X 10-9 M.

L26 ANSWER 51 OF 75 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1997:434190 BIOSIS
DN PREV199799733393
TI Implementation of affinity solid-**phases** in continuous-flow biochemical detection.
AU Lutz, E. S. M.; Irth, H. (1); Tjaden, U. R.; Van Der Greef, J.
CS (1) Div. Analytical Chemistry, Leiden/Amsterdam Cent. Drug Res., Leiden Univ., PO Box 9502, 2300 RA Leiden Netherlands
SO Journal of Chromatography A, (1997) Vol. 776, No. 2, pp. 169-178. ISSN: 0021-9673.
DT Article
LA English
AB A continuous-flow biochemical detection system is presented which allows the use of solid-**phase** immobilized **affinity** proteins. The biochemical **detection** is performed by mixing **analyte** with a labelled ligand followed by the addition of solid-**phase** immobilized affinity protein. After a reaction time of 85 s, free and bound label are separated by means of a hollow fibre module. Quantitation of the free label is performed with a conventional flow-through **fluorescence** detector. Total assay time amounts to less than 2 min. Biotin was chosen as the model compound using a range of streptavidin-coated solid-**phases** and an antibody-coated solid-**phase** as affinity material, and **fluorescein**-biotin as low-molecular-mass label. The relative standard deviation for twenty repetitive injections was 10.9%. A calibration curve was constructed in the concentration range between 20 and 400 nmol l-1 leading to a correlation coefficient of 0.994. A limit of detection of 8 nmol l-1 was obtained.

L26 ANSWER 52 OF 75 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1997:37381 BIOSIS
DN PREV199799329369
TI Evaluation of a novel immunoaffinity **phase** for the purification of cattle liver extracts prior to high-performance liquid chromatographic determination of beta-agonists.
AU Cooper, Andrew D.; Shepherd, Martin J.
CS Ministry Agriculture, Fisheries Food, Central Sci. Lab., Food Sci. Lab., Norwich Research Park, Colney, Norwich NR4 7UQ UK
SO Food and Agricultural Immunology, (1996) Vol. 8, No. 3, pp. 205-213. ISSN: 0954-0105.
DT Article
LA English
AB The performance of an immunoaffinity **phase** for the purification of cattle liver extracts containing clenbuterol or salbutamol is described. The capacities of the immunoaffinity **phase** were found to be 440 ng of clenbuterol and 270 ng of salbutamol per g solid **phase** when measured in phosphate-buffered saline. The **phase** yielded greater than 75% recovery of clenbuterol from cattle liver extracts fortified at concentrations equivalent to 12 ng g-1. The capacity for salbutamol was found to be markedly affected by buffer type and the presence of sample matrix components in cattle liver extracts. Immunoaffinity-purified cattle liver extracts were analyzed by high-performance liquid chromatography with UV and **fluorescence** detection. The presence of matrix co-extractives in the purified extracts was the main factor limiting the applicability of this procedure to the determination of these analytes at residue levels. The achievable detection limits were estimated to be more than 5 ng g-1 for both **analytes**. The behaviour of salbutamol on this **immunoaffinity phase** was rather more complex than the high capacity value alone indicates. The data reported here suggest that such capacity values, derived under ideal conditions, should be treated with caution unless supported by recovery data determined for real samples. This consideration may be more important for cross-reacting analytes than for the primary antigen.

L26 ANSWER 53 OF 75 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1985:277603 BIOSIS
DN BA79:57599
TI DETERMINATION OF HORMONES BY TIME-RESOLVED **FLUOROIMMUNOASSAY**.
AU LOVGREN T; HEMMILA I; PETTERSSON K; ESKOLA J U; BERTOFT E
CS WALLAC BIOCHEMICAL LABORATORY, P. O. BOX, SF-20101 TURKU 10, FINLAND.
SO TALANTA, (1984) 31 (10B), 909-916.
CODEN: TLNTA2. ISSN: 0039-9140.
FS BA; OLD
LA English
AB Immunoassays based on europium labels and time-resolved **fluorescence** as the detection method were developed. The specific activity of the label is several orders of magnitude higher than that of radioactive labels. Consequently, the technique provides great potential, especially in the **determination** of **analytes** which require high sensitivity. Both **competitive** and immunometric **assays** which use labeled antibodies have been worked out. In competitive assays the antigen is immobilized on a solid **phase** with a protein carrier. The antigen in the standard or sample then competes with the labeled antibody in solution. Separation is done simply by washing the wells in the **microtiter** strip where the assays are performed. Model systems are described for the measurement of testosterone and cortisol. Immunometric assays of human TSH (hTSH) and luteotropin (LH) were performed with monoclonal antibodies, by either a one-step (hTSH) or two-step (LH) incubation procedure. These assays, which exploit the specific activity of the label, give a very high sensitivity and good reproducibility. The standard curves are linear and the dynamic range is at least 1000-fold. Because of the properties of the europium label and the simple assay design, the immunoassays based on time-resolved **fluorescence** are expected to gain wide application both in research and in routine determinations.

L26 ANSWER 54 OF 75 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
AN 96010234 EMBASE
DN 1996010234
TI Coupled-column HPLC analysis of free urinary catecholamines using restricted access affinity precolumn and micro-particulate nonporous silica analytical column.
AU Rudolphi A.; Boos K.-S.; Seidel D.
CS Institut fur Klinische Chemie, Klinikum Grosshadern, Ludwig-Maximilians-Universitat, Postfach 701260,81312 Munchen, Germany
SO Chromatographia, (1995) 41/11-12 (645-650).
ISSN: 0009-5893 CODEN: CHRGB7
CY Germany
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
AB A coupled-column LC-method for fast, direct and routine quantitation of free parent catecholamines norepinephrine, epinephrine and dopamine in human urine has been developed. Direct injection of untreated samples followed by system-integrated, sample cleanup was achieved using a restricted-access **affinity** precolumn packed with a boronic acid-modified, copolymer support. **Analytes** were selectively extracted from the urine matrix at an alkaline pH by covalent affinity bonding. Desorption and transfer of the catecholamines to a nonporous, microparticulate-silica analytical column was by changing the pH of the mobile **phase** to an acidic value. Separation was by ion-pair RP-HPLC under aqueous conditions without addition of organic modifier. Analytes were detected by their natural **fluorescence**. Limits of quantitation were 5.57, 1.75 and 36.81 pmol for norepinephrine, epinephrine and dopamine, respectively. Urine levels could be quantified with a precision of about 2 %. Mean recoveries of norepinephrine, epinephrine and dopamine were 98.18, 102.0 and 101.12 %. Using a nonporous packing in the analytical column, analytical times and solvent consumption were reduced considerably compared to conventional porous silica columns.

L26 ANSWER 55 OF 75 SCISEARCH COPYRIGHT 2001 ISI (R)
AN 2000:235351 SCISEARCH
GA The Genuine Article (R) Number: 295YH
TI An HPLC detection scheme for underivatized amino acids based on tryptophan
fluorescence recovery
AU Yang M; Tomellini S A (Reprint)
CS UNIV NEW HAMPSHIRE, DEPT CHEM, DURHAM, NH 03824 (Reprint); UNIV NEW HAMPSHIRE, DEPT CHEM, DURHAM, NH 03824
CYA USA
SO ANALYTICA CHIMICA ACTA, (23 MAR 2000) Vol. 409, No. 1-2, pp. 45-53.
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
ISSN: 0003-2670.
DT Article; Journal
FS PHYS
LA English
REC Reference Count: 30
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB A simple, sensitive **fluorescence** detection scheme has been developed for detecting underivatized amino acids following HPLC separation. This detection is based on a displacement reaction between the eluted amino acids and a copper(II)-L-tryptophan (L-Trp) complex, Cu(L-TrP)(2). In the form of the complex CU(L-Trp)?, the **fluorescence** of L-Trp is approximately 95% **quenched**; with the addition of **analytes** with strong **affinity** for Cu(II) such as the natural amino acids, L-Trp is released from the complex and L-Trp **fluorescence** is recovered. Thus, the presence of the eluted analytes is inferred by the recovered **fluorescence** of displaced L-Trp. Twenty amino acids have been detected with the proposed detection method. fluent pH has a strong effect on detection. The detection limit for L-cystine (L-Cys) is 3.8 pmol (S/N=3) using a 10 mu l injection volume. Relative standard deviations for four injections of 50 and 250 pmol of L-Cys are 2.9 and 0.6%, respectively. Detection limits for most of the other amino acids tested are below 10 pmol with linearity up to the order of nmol.

L26 ANSWER 56 OF 75 SCISEARCH COPYRIGHT 2001 ISI (R)
AN 1999:620067 SCISEARCH
GA The Genuine Article (R) Number: 223RJ
TI Application of non-specific **fluorescent** dyes for monitoring enantio-selective ligand binding to molecularly imprinted polymers
AU Piletsky S A; Terpetschnig E; Andersson H S; Nicholls I A; Wolfbeis O S (Reprint)
CS UNIV REGENSBURG, INST ANALYT CHEM CHEMO & BIOSENSORS, D-93040 REGENSBURG, GERMANY (Reprint); UNIV REGENSBURG, INST ANALYT CHEM CHEMO & BIOSENSORS, D-93040 REGENSBURG, GERMANY; UNIV KALMAR, INST NAT SCI, S-39129 KALMAR, SWEDEN
CYA GERMANY; SWEDEN
SO FRESENIUS JOURNAL OF ANALYTICAL CHEMISTRY, (JUL 1999) Vol. 364, No. 6, pp.
512-516.
Publisher: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010.
ISSN: 0937-0633.
DT Article; Journal
FS PHYS
LA English
REC Reference Count: 20
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The displacement of non-specific dyes from molecularly imprinted polymer (MIP) chromatographic stationary **phases** has been used for the detection and quantification of ligand-polymer binding events. A blank polymer and an L-phenylalaninamide-imprinted polymer were prepared using methacrylic acid as the functional monomer and ethylene glycol dimethacrylate as a crosslinker. The MIP is first loaded with dye, and a solution of the dye in the eluent is passed through the MIP. If analyte is
injected into the dye solution in the eluent, part of the dye is competitively replaced by the **analyte** from the MIP.
Specifically, the **competitive** displacement of rhodamine B by amino acids and phenylalaninamide (Phe-NH2), respectively, has been studied under polar and hydrophobic elution conditions. Enantioselective binding of Phe and Phe-NH2 to the imprinted polymer was shown to occur in the micromolar concentration range. It is proposed that the displacement of non-specific dyes from MIPs be used for the development of multisensors
based upon these highly specific and stable materials, which provide promising alternatives to the use of biological macromolecules in sensor technology.

L26 ANSWER 57 OF 75 SCISEARCH COPYRIGHT 2001 ISI (R)
AN 95:786547 SCISEARCH
GA The Genuine Article (R) Number: TD753
TI INTEGRATED OPTICAL CHEMICAL AND DIRECT BIOCHEMICAL SENSORS
AU LUKOSZ W (Reprint)
CS ETH ZURICH, OPT LAB, CH-8093 ZURICH, SWITZERLAND (Reprint)
CYA SWITZERLAND
SO SENSORS AND ACTUATORS B-CHEMICAL, (OCT 1995) Vol. 29, No. 1-3, pp. 37-50.
ISSN: 0925-4005.
DT Article; Journal
FS ENGI
LA ENGLISH
REC Reference Count: 34
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB An overN(TE0) and N-TM0 of the guided modes. For example, in biochemical affinity sensors the chemically selective coating contains receptor molecules that specifically or selectively bind certain ligands as analyte molecules; in particular, in immunosensors or immunoassays the receptors are antibodies (or antigens, respectively) and the **analyte** molecules are the corresponding antigens (or antibodies). These 'direct' **affinity** or immunosensors eliminate the use of (e.g., **fluorescently**) labelled reagents. Effective refractive-index changes Delta N can also be induced by two other effects: namely by unspecific adsorption of molecules on the (uncoated) waveguide surface (or in pores of a waveguiding film F itself if it is microporous) and by refractive-index changes Delta n(C) of the liquid sample. In the latter case the IO sensors work as refractometers. The effective refractive indices N give the **phase** velocity upsilon(ph) = C/N of the guided modes, where c is the velocity of light in vacuum. This means that the effective refractive-index changes Delta N can be measured by various optical means. Consequently, a number of different types of IO sensors can be used, in particular, grating couplers and interferometers. In the paper, I report on our own work on IO sensors including: the discovery of the basic sensor effect with grating couplers as sensors for relative-humidity changes, the theory of the sensor sensitivities, and experimental results obtained with three different types of IO sensors developed in our laboratory, namely input grating couplers, output grating couplers and the difference or polarimetric interferometer. The experiments have been performed with dip-coated SiO2-TiO2 waveguiding films of refractive index n(F) approximate to 1.75-1.88, on glass, silica and silicon wafers with oxidized buffer layers as substrates. The sensors working as refractometers are tested, for example, with glucose solutions of different concentrations. The adsorption of proteins (h-IgG, BSA, protein A, avidin) is monitored in real time. Not only the surface concentration T, with a resolution of a few pg mm(-2), but also the thickness d(F) and the refractive index n(F) of the adsorbing (mono)layers are determined as functions of time. Also immunoreactions (e.g., between h-IgG and anti-h-IgG, and between IgGs and protein A) and affinity reactions (between avidin and biotinylated proteins, such as biotin BSA) are observed in real time. The feasibility of IO immunosensors or affinity

sensors or immunoassays with sub-nanomolar detection limits is demonstrated.view is given on work by the author's group on integrated optical (IO) sensors. The sensors make use of guided waves or modes in optical waveguides, in particular of the orthogonally polarized TE(0) and TM(0) modes in very thin planar waveguides of high refractive index. The principle of all direct (bio)chemical waveguide or IO sensors is as follows. A chemically selective coating on the waveguide surface binds the analyte molecules contained in the gaseous or liquid sample. Thus, the refractive index of the medium near the waveguide surface (more precisely, within the penetration depth Delta(z) of the evanescent field of the guided wave) is changed. This effect in turn induces changes Delta N-TE0 and Delta N-TM0 of the effective refractive indices

L26 ANSWER 58 OF 75 SCISEARCH COPYRIGHT 2001 ISI (R)
AN 94:774995 SCISEARCH
GA The Genuine Article (R) Number: PU984
TI ONLINE COUPLING OF LIQUID-CHROMATOGRAPHY TO BIOCHEMICAL ASSAYS BASED ON **FLUORESCENT**-LABELED LIGANDS
AU OOSTERKAMP A J; IRTH H (Reprint); TJADEN U R; VANDERGREEF J
CS LEIDEN UNIV, LEIDEN AMSTERDAM CTR DRUG RES, DIV ANALYT CHEM, POB 9502, 2300 RA LEIDEN, NETHERLANDS (Reprint); LEIDEN UNIV, LEIDEN AMSTERDAM CTR DRUG RES, DIV ANALYT CHEM, 2300 RA LEIDEN, NETHERLANDS
CYA NETHERLANDS
SO ANALYTICAL CHEMISTRY, (01 DEC 1994) Vol. 66, No. 23, pp. 4295-4301. ISSN: 0003-2700.
DT Article; Journal
FS PHYS; LIFE
LA ENGLISH
REC Reference Count: 19
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The on-line coupling of liquid chromatography (LC) to a biochemical detection (BCD) technique based **fluorescein**-labeled ligands as reporter molecules is described. In a first step, affinity proteins such as antibodies or avidin are added to the LC effluent to react with ligands (**analytes**) eluting from the LC column. Unbound **affinity** proteins react, in a second step, with an excess of **fluorescein** -labeled ligand to titrate the remaining free binding sites. Prior to detection of the labeled ligand/protein complex, free and bound label are separated on the basis of the considerable difference in molecular weight, A short (10 x 4.0 mm i.d.) column packed with a restricted-access support is used to trap the free labeled ligand at the hydrophobic inner surface of the pores. The high molecular-weight labeled ligand/protein complex passes this column unretained and is detected by means of **fluorescence** detection. The interaction between biotin and avidin was chosen as a model system. A detection limit of 160 fmol was obtained for biotin using reversed-**phase** LC-BCD. An equilibrium and kinetic model is described which relates the detector response to the concentration of affinity protein, **fluorescent** label, and reaction time.

L26 ANSWER 59 OF 75 LIFESCI COPYRIGHT 2001 CSA
AN 90:2270 LIFESCI
TI A procedure for productive coupling of synthetic oligonucleotides to polystyrene **microtiter** wells for hybridization capture.
AU Running, J.A.; Urdea, M.S.
CS Chiron Corp., 4560 Horton St., Emeryville, CA 94608, USA
SO BIOTECHNIQUES., (1990) vol. 8, no. 3, pp. 276-279.
DT Journal
FS N; W; G3
LA English
SL English
AB Solid **phase** mediated capture (purification) of molecular complexes from solution has been employed for many types of bioassay (RIA, EIA and so on). For the **analysis** of **nucleic** acids, several types of "**sandwich**" **assays** involving target sequence capture have been introduced. We have devised a solution **phase** probe hybridization method involving synthetic oligonucleotides with single-strand extensions that can be used to capture the probe-target complex to a solid support and to label the target through a controlled networking of additional synthetic probes.

L26 ANSWER 60 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-138162 [13] WPIDS
DNN N2000-103321 DNC C2000-042599
TI Detection of analytes in a sample using rheumatic factors as anti-interference agents.
DC B04 D16 S03
IN DONIE, F; OFENLOCH-HAEHNLE, B; WEHNER, R
PA (HOFF) ROCHE DIAGNOSTICS GMBH; (BOEF) BOEHRINGER MANNHEIM GMBH
CYC 26
PI DE 19913117 A1 19991111 (200013)* 11p
EP 957360 A1 19991117 (200013) DE
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 11344491 A 19991214 (200013) 8p
ADT DE 19913117 A1 DE 1999-19913117 19990323; EP 957360 A1 EP 1999-108860 19990504; JP 11344491 A JP 1999-126491 19990506
PRAI DE 1998-19820239 19980506
AN 2000-138162 [13] WPIDS
AB DE 19913117 A UPAB: 20000313
NOVELTY - Detecting analytes in a sample using rheumatic factors or similar compounds as anti-interference agents, is new.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a reagent kit for carrying out the method.
USE - The process is used to remove interference in immunoassays, to detect antigens or antibodies (claimed). The rheumatic substances or similar compounds are useful for reducing or avoiding the Hook effect in immunoassays (claimed).
ADVANTAGE - The process minimized or prevents the Hook effect and can
detects analytes at very high or very low concentrations.
Dwg.0/0

L26 ANSWER 61 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-105707 [09] WPIDS
DNN N2000-081185 DNC C2000-031737
TI A homogeneous biospecific assay used in the analytics of various biologically active molecules.
DC B04 D16 J04 S03
IN HAENNINEN, P; SOINI, E
PA (SOIN-I) SOINI E
CYC 20
PI WO 9963344 A1 19991209 (200009)* EN 22p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: JP US
ADT WO 9963344 A1 WO 1999-FI393 19990511
PRAI FI 1998-1272 19980604
AN 2000-105707 [09] WPIDS
AB WO 9963344 A UPAB: 20000218
NOVELTY - A homogeneous biospecific assay for an analyte in the solution or in a biological suspension, is new.

DETAILED DESCRIPTION - The assay comprises a laser beam focused into the liquid volume the concentration of the free labeled ligand in the solution is detected by means of the photon emission from the label by registering the photon emission from the label during time intervals when there is no solid **phase** in the focal volume or in its near vicinity. In the assay a biospecific reagent competitively binds an analyte and a ligand labeled with a **fluorescent** molecule, bound to a solid **phase**. A laser beam suitable for two-photon excitation is used to excite the **fluorescence** of the free ligand in the solution and in which the focal volume obtained with two-photon excitation is sharply diffraction limited.

USE - The **competitive assay** method is suitable for **analytics** of small **analyte** molecules, which are biologically active.

ADVANTAGE - None given.

Dwg.0/2

L26 ANSWER 62 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1999-552114 [47] WPIDS
TI Detecting nucleic acid using interaction between **fluorophores**, with increased sensitivity and decreased risk of contamination.
DC A89 B04 D16 J04 S03
IN BERTLING, W
PA (NOVE-N) NOVEMBER NOVUS MEDICATUS BERTLING GES MO; (NOVE-N) NOVEMBER GES MOLEKULARE MED AG
CYC 22
PI DE 19811729 A1 19990923 (199947)* 7p
WO 9947700 A1 19990923 (199947) DE
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP US
DE 19811729 C2 20000518 (200029)
EP 1064407 A1 20010103 (200102) DE
R: AT CH DE FR GB LI
ADT DE 19811729 A1 DE 1998-19811729 19980318; WO 9947700 A1 WO 1999-DE725 19990316; DE 19811729 C2 DE 1998-19811729 19980318; EP 1064407 A1 EP 1999-919084 19990316, WO 1999-DE725 19990316
FDT EP 1064407 A1 Based on WO 9947700
PRAI DE 1998-19811729 19980318
AN 1999-552114 [47] WPIDS
AB DE 19811729 A UPAB: 19991116
NOVELTY - A method for **fluorescent** detection of a nucleotide sequence (N) is new in which the presence of N generates or destroys an interaction between two **fluorophores** (F1, F2), the new feature is that at least one of F1 and F2 is bound to a solid **phase** (M). The interaction between the **fluorophores** makes possible a non-radiative (Foerster) or direct energy transfer.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a **microtiter** plate for carrying out the process with F1 bonded to the wells; and

(2) kit including the **microtiter** plate plus an F2-labeled second primer.

USE - The method is used for qualitative or quantitative determination of N.

ADVANTAGE - By attaching one **fluorophore** to a solid **phase**, sensitivity is improved and the risk of contamination is reduced (no washing steps are required). The method is simple, inexpensive and provides efficient determination of the concentration of N from a single, on-line measurement of **fluorescence**.

L26 ANSWER 63 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1999-430177 [36] WPIDS
DNN N1999-320271 DNC C1999-126741
TI An **affinity** matrix for the **detection** of small **analytes**.
DC B04 C07 D16 J04 S03
IN KOHN, B A; RADLO, J L
PA (VICA-N) VICAM LP
CYC 23
PI WO 9932886 A1 19990701 (199936)* EN 58p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA IL JP NZ
AU 9919446 A 19990712 (199950)
ADT WO 9932886 A1 WO 1998-US27434 19981223; AU 9919446 A AU 1999-19446 19981223
FDT AU 9919446 A Based on WO 9932886
PRAI US 1998-161454 19980928; US 1997-68567 19971223
AN 1999-430177 [36] WPIDS
AB WO 9932886 A UPAB: 19990908
NOVELTY - An **affinity** matrix for the **detection** of a small **analyte** comprises:
(1) a solid **phase** sorbent material;
(2) a ligand which is specific for both the small analyte and the small analyte which is tagged with a non-enzyme label; and
(3) the ligand is immobilized on the sorbent material.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a method for detecting a small analyte in a test sample, comprising:
(a) exposing a sample believed to contain a small analyte in combination with a predetermined amount of the analyte that is tagged with a non-enzyme label to a solid **phase** sorbent material that has immobilized thereon a ligand that is specific for both the analyte and the analyte which is tagged;
(b) washing the solid **phase** sorbent material to remove non-specifically associated sample material;
(c) exposing the solid **phase** sorbent material to releasing agent to recover the analyte and tagged analyte in an eluant; and
(d) detecting the presence and amount of the analyte in the eluant;
(2) a kit for detecting analytes in a test sample, comprising:
(a) a solid **phase** sorbent conjugated to a ligand specific for both a small analyte of molecular weight of not more than about 10 kDa and the analyte that is tagged;
(b) a tagged analyte to be detected; and
(c) (c) instructions for carrying out the detection method; and
(3) a small analyte that is less than 10 kDa, which is tagged with a non-enzyme label.
USE - The process is used to detect analytes selected from pesticides, drugs, toxins, mycotoxins, drug metabolites, trichothecenes, fumonisins, antibiotics, and fragments of microorganisms, and their respective conjugates and derivatives (all claimed).

Dwg.0/10

L26 ANSWER 64 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1999-279859 [24] WPIDS
CR 1989-194266 [27]; 1994-042866 [05]; 1994-048140 [06]; 1994-056409 [07];
1994-056410 [07]; 1994-074431 [09]; 1994-191593 [23]; 1994-263336 [32]
DNN N1999-209906 DNC C1999-082401
TI New ester, thioester and amide containing chemiluminescent compounds useful for forming conjugate labels in assays and immunoassays.
DC B02 B03 B04 D16 S03
IN BEHESHTI, I; HART, R C; KOELLING, H; MCCAPRA, F; PATEL, A; RAMAKRISHNAN, K
PA (NICH-N) NICHOLS INST DIAGNOSTICS
CYC 13
PI EP 916658 A1 19990519 (199924)* EN 82p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
ADT EP 916658 A1 Div ex EP 1988-121915 19881230, EP 1998-123411 19881230
FDT EP 916658 A1 Div ex EP 322926
PRAI US 1988-291843 19881229; US 1987-140040 19871231
AN 1999-279859 [24] WPIDS
CR 1989-194266 [27]; 1994-042866 [05]; 1994-048140 [06]; 1994-056409 [07];
1994-056410 [07]; 1994-074431 [09]; 1994-191593 [23]; 1994-263336 [32]
AB EP 916658 A UPAB: 19990624
NOVELTY - Chemiluminescent ester, thioester and amide containing compounds
are useful for forming analyte-conjugate complexes in assays and immunoassays allowing improved detection of analytes.
DETAILED DESCRIPTION - Chemiluminescent compounds and their salts of formula (III) are new:
R4 = completes an ester, thioester or amide linkage;
Q = heterocyclic ring or ring system containing a C atom to which the carbonyl in formula (III) is attached, where the heteroatom in the ring or the ring system is in, or is capable of being in, an oxidation state which makes the C atom susceptible to attack by peroxide or molecular oxygen to form an intermediate which decay to produce chemiluminescence;
Z' = substituent attached to the (sp3 hybridized) C atom that R4 is also attached to, and in selected from: H, halo, CN, OR, NR2, N+R3, SR, S+R2, S2R, NRCO2R, NHNR2, NRNR2, ONR2, NHOR, CR(CN)2, CR(COR)2, CR2NO2, C triple bond COR, XRn, a drug or steroid molecule, 2-oxazole or 1-imidazole;
R = alkyl, aryl, amino acid or sugar; or multiple R group can form groups of formula (i) or (ii):
X = O, N, S or C;
n = 1-3, determined by the valency of X; and
R5 = aryl or other ring system (optionally substituted).
An INDEPENDENT CLAIM is also included for chemiluminescent compounds of formula (IV):
SO2-R''-Y' = leaving group;
R', R'' = alkyl, alkylene, aryl, optionally substituted alkyl,

optionally substituted alkylene, optionally substituted aryl, alkyloxy, aryloxy, halo, optionally protected amino, substituted aminohydroxy, protected hydroxy, oxo, thio, imino, optionally substituted mercapto, a heterocyclic ring and/or a heteroalkyl group; and

Y' = H, carboxy, carbonyl halide, sulfonyl halide, carboalkoxy, carboxamido, carboaryloxy, CN, carboximido, isocyanato, isothiocyanate, sulfo, N-succinimidylcarboxy and N-maleimide.

An INDEPENDENT CLAIM is also included for chemiluminescent compounds of formula (V):

V'-R''' = leaving group; and

R''' = a group useful for attachment to a protein or another binding partner.

An INDEPENDENT CLAIM is also included for chemiluminescent compounds of formula (VI):

W' = leaving group; and

S-W = sulfonamido or sulfocarbonyl.

INDEPENDENT CLAIMS are also included for:

(A) a conjugate comprising a chemiluminescent compound bound to a specific binding partner for a biological, biochemical or chemical species;

(B) a composition comprising a chemiluminescent compound or a conjugate as above;

(C) a specific binding assay kit comprising a vial containing the above composition;

(D) a specific binding assay for detecting an analyte in a sample utilizing a chemiluminescent conjugate or compound attached to a specific binding material where the presence of the analyte in the sample is proportional to the formation of one or more specific binding reaction products containing the conjugate, the assay comprising:

(1) allowing formation of one or more specific binding reaction products containing the conjugate; and

(2) measuring the chemiluminescence of either (a) one or more of the specific binding reaction products; or (b) the conjugate not contained in the binding reaction products; and

(E) a specific binding assay for detecting an analyte in a sample utilizing a chemiluminescent moiety comprising a chemiluminescent compound, and the presence of the analyte in the sample is proportional to the formation of one or more specific binding reaction products not containing the compound and the Chemiluminesces in proportion to the formation of the specific binding reaction products, the assay comprising:

(1) allowing formation of the specific binding reaction products; and

(2) measuring the chemiluminescence of the compound caused by the formation of the binding reaction products.

USE - (III)-(VI) are chemiluminescent compound useful for forming conjugate labels in assays and immunoassays.

L26 ANSWER 65 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1999-243626 [20] WPIDS
DNC C1999-071008
TI Oligonucleotide probes bearing **quenchable fluorescent** labels.
DC B04 D16
IN FISS, E; HORN, T; LAW, S; SCHROEDER, H R; SELLS, T; WARNER, B D
PA (CHIR) CHIRON CORP; (FARB) BAYER CORP; (CHIR) CHIRON DIAGNOSTICS CORP
CYC 22
PI WO 9911813 A2 19990311 (199920)* EN 68p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
AU 9892204 A 19990322 (199931)
EP 1009852 A2 20000621 (200033) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
ADT WO 9911813 A2 WO 1998-US18397 19980903; AU 9892204 A AU 1998-92204 19980903; EP 1009852 A2 EP 1998-944737 19980903, WO 1998-US18397 19980903
FDT AU 9892204 A Based on WO 9911813; EP 1009852 A2 Based on WO 9911813
PRAI US 1997-57810 19970904
AN 1999-243626 [20] WPIDS
AB WO 9911813 A UPAB: 19990525
NOVELTY - Reducing background signals in nucleic acid hybridization assays using oligonucleotide probes bearing **quenchable fluorescent** labels.
DETAILED DESCRIPTION - Detecting an oligonucleotide (I) in a sample comprises:
(a) providing a first oligonucleotide probe (FOP) comprising a first nucleic acid sequence complimentary to a first nucleic acid sequence in (I) and a label which, when the probe is in single stranded, non-hybridised form, provides a detectable emission radiation which, when the probe hybridizes to a complementary nucleic acid strand is **quenched**; and
(b) combining the FOP with the sample under hybridizing conditions to form a first probe-(I) hybrid complex, while monitoring emitted radiation form the FOP; and (c) correlating any change in emitted radiation which occurs throughout step (b) with the presence or quantity of (I).
INDEPENDENT CLAIMS are included for the following:
(1) an improved solution **phase sandwich** hybridization **assay** for **detection** of a **nucleic** acid **analyte** comprising: (a) binding the **analyte** indirectly to a solid support; (b) labeling the analyte; and (c) detecting the presence of label on the support; in which the improvement comprises incorporating a label probe system comprising a label extender molecule having a first segment L-1 capable of hybridizing to a nucleic acid sequence in the analyte and a second segment L-2, an amplification multimer containing a nucleic acid sequence M-1 capable of hybridizing to nucleic acid sequence L-2 and a plurality of identical oligonucleotide subunits containing nucleic acid sequences M-2 capable of hybridizing to a label probe and a label probe comprising a nucleic acid sequence L-3 capable of hybridizing to M2 and a **quenchable** dye coupled to the

probe through a linker incapable of specifically hybridizing with a nucleic acid sequence in the analyte, the label extender, the amplification multimer or a target nucleotide sequence; and

(2) an oligonucleotide probe comprising a nucleic acid sequence complementary to a nucleic acid sequence in (I) and a label as above.

USE - For detection of oligonucleotides, preferably a wild-type gene.

The method and probes are useful in assays such as **fluorescent** in situ hybridization assays, polymerase chain reaction assays, ligase chain reaction assays, competitive hybridization **assays** and strand displacement **assays**. They are particularly useful in **sandwich** hybridization **assays** which involve binding the **analyte** to a solid support, labeling the **analyte** and **detecting** the presence of label on the support. Preferred methods involve the use of amplification multimers which enable the binding of more label in the analyte-probe complex, enhancing assay sensitivity and specificity.

ADVANTAGE - The use of oligonucleotides bearing **quenchable** **fluorescent** labels reduced the background signals encountered in nucleic acid hybridization assays and other assays involving hybridization of a labeled oligomer t its complement. Th signal reduction occurs when the **quenchable** dye-labeled oligomer forms a hybrid complex. The method is also used to enhance the detectable signal emitted from an amplification multimer hybridized to an oligomer probe to which a **quenchable** dye has been conjugated

Dwg.3c/8

L26 ANSWER 66 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1997-482043 [45] WPIDS
DNC C1997-153297
TI Streptavidin and avidin muteins with reduced binding affinity for biotin -
useful for reducing interference from nonspecific binding in assays.
DC B04 D16
IN BRANDSTETTER, H; DEGER, A; ENGH, R; KOPETZKI, E; MUELLER, R; SCHMITT, U
PA (BOEF) BOEHRINGER MANNHEIM GMBH; (HOFF) ROCHE DIAGNOSTICS GMBH
CYC 5
PI DE 19637718 A1 19971002 (199745)* 26p
EP 799890 A2 19971008 (199745) DE 27p
R: DE ES FR IT
JP 10028589 A 19980203 (199815) 20p
JP 3097905 B2 20001010 (200052) 21p
ADT DE 19637718 A1 DE 1996-19637718 19960916; EP 799890 A2 EP 1997-105408 19970401; JP 10028589 A JP 1997-79632 19970331; JP 3097905 B2 JP 1997-79632 19970331
FDT JP 3097905 B2 Previous Publ. JP 10028589
PRAI DE 1996-19613053 19960401
AN 1997-482043 [45] WPIDS
AB DE 19637718 A UPAB: 19990424
A new biotin-bindable polypeptide is selected from avidin or streptavidin muteins that differ from the native polypeptide by at least one amino acid and have a binding affinity for biotin of less than 1010 l/mole; the biotin-bindable polypeptide may be present as a polymeric conjugate, e.g. with another polypeptide or protein, especially bovine serum albumin.

Also claimed are:

(1) a nucleic acid coding for a polypeptide as above;

(2) (Ha vector containing at least one copy of a nucleic acid as in (1); and

(3) a cell transformed with a vector as in (2).

Also new are:

(A) (Hthe use of a biotin-bindable polypeptide selected from avidin or streptavidin muteins as a regenerable system for binding biotin, where at least one amino acid of the native polypeptide is substituted and the mutein has a binding affinity for biotin of 105-1011 l/mole; and

(B) (Ha biotin-bindable regenerable solid **phase** coated with a streptavidin or avidin mutein having a binding affinity for biotin of 105-1011 l/mole.

(UMORE SPECIFICALLYU)

The polypeptide is a streptavidin mutein with at least one of Leu-25, Ser-27, Ser-45 and Leu-110 replaced by Arg, Trp, Tyr, Phe or His. The polypeptide is a mutein of a recombinant core streptavidin with a defined sequence of 128 amino acids given in the specification.

Alternatively, the polypeptide is an avidin mutein with at least one of Leu-14, Ser-16, Thr-35 and Leu-99 replaced by Arg, Trp, Tyr, Phe or His.

(UUSEU)

The new streptavidin and avidin muteins are used as anti-interference

reagents for reducing and/or avoiding nonspecific interactions in a process for detecting an analyte. In particular, they are used in assays where the streptavidin/avidin-biotin specific binding pair is involved for qualitative and/or quantitative determination of an analyte in a test sample, e.g. a heterogeneous immunoassay or a hybridisation assay.

The regenerable system for binding biotin is useful for **determination** of receptor-ligand interactions, as an **affinity** matrix or for **determination** of an **analyte**. (All claimed).

(UADVANTAGEU)

Despite having a lower binding affinity for biotin, the muteins have high immunological cross-reactivity with native (strept)avidin.

(UPREFERRED POLYPEPTIDESU)

When used as an anti-interference agent, the mutein is in soluble form or can be immobilised on a solid **phase** such as a chip, membrane, **microtitre** plate, reaction vessel or microbeads.

In the regenerable system for binding biotin, the mutein is immobilised on a solid **phase**, especially a chip, membrane, **microtitre** plate, reaction vessel, microbeads or a chromatographic material. The system is regenerated by reducing the pH below 4.5 and/or adding a chaotropic agent.

(UEXAMPLEU)

The streptavidin Ser27Arg/Ser45Arg mutein had an association constant of 4.2 x 107 l/mole for binding to biotin, compared with more than 1010 for wild-type streptavidin. (GS1).

Dwg.0/1

L26 ANSWER 67 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1997-133852 [13] WPIDS
DNN N1997-110309 DNC C1997-043396
TI Optical bio sensor using energy transfer between **fluorescent** dyestuffs - has alternating layers of poly anion and poly cation with biotin and dyestuff in binding to **fluorescent**-labelled analytes.
DC A89 B04 D16 J04 S03
IN DIEDERICH, A; HEILIGER, L; LOESCHE, M; SIEGMUND, H; VOELKER, M
PA (FARB) BAYER AG
CYC 10
PI DE 19530078 A1 19970220 (199713)* 12p
EP 762122 A1 19970312 (199715) DE 13p
R: BE DE FR GB IT LU NL SE
JP 09054094 A 19970225 (199718) 9p
CA 2183204 A 19970217 (199725)
ADT DE 19530078 A1 DE 1995-19530078 19950816; EP 762122 A1 EP 1996-112608 19960805; JP 09054094 A JP 1996-229454 19960813; CA 2183204 A CA 1996-2183204 19960813
PRAI DE 1995-19530078 19950816
AN 1997-133852 [13] WPIDS
AB DE 19530078 A UPAB: 19970410
Solid **phase** optical biosensor is claimed which has receptor biomolecules for the specific recognition of analytes utilising the Forster energy transfer (Resonant Energy Transfer; RET) between two **fluorescent** dyes F1 and F2. The biosensor comprises a transparent carrier supporting alternating polyanion and polycation layers. The uppermost layer contains a biotin-substd. polycation in which the degree of substitution is 20-80 (pref. 30-70, esp. 40-60) mole %, based on the number of equiv. cationic gps. The biotin-substd. polycation layer is covered with streptavidin bonded to it. There are additional biotin-substd. receptor biomolecules, pref. antibodies. The receptors bond with an analyte which is labelled with a **fluorescent** dye (F2). A **fluorescent** dye (F1) is bonded to the basic polyion layers, the streptavidin, the biotin-substd. receptor biomolecules or the antibodies.

USE - The biosensor is useful in an immunoassay to determine the presence and amount of an analyte such as a hormone, enzyme, carbohydrate, nucleic acid, pharmaceutical or toxin, in a biological fluid. It can be used in conventional **assays** in which the **analyte** is provided with dye F2 or in **competitive assays** in which an **analyte** is provided with this dye and is bonded to the biosensor.

ADVANTAGE - The biosensor, in which the receptor biomolecules are present in a thin molecular and well-defined arrangement, avoids the disadvantages, e.g. poor stability and low specificity, associated with prior art biosensors carrying adsorbed or covalently bonded receptors.
Dwg.1/4

L26 ANSWER 68 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1994-333360 [41] WPIDS
DNN N1994-261546 DNC C1994-151717
TI **Fluorescent** immunoassay for renin-angiotensin aldosterone axis components - using a specific antibody and **competitive analyte**, one immobilised the other labelled, for diagnosis of hypertension and/or kidney disease.
DC B04 D16 S03
IN MCCABE, R T; RHODES, C A; WILSON, B R
PA (PHAR-N) PHARM DISCOVERY CORP
CYC 19
PI WO 9423301 A1 19941013 (199441)* EN 33p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
AU 9465289 A 19941024 (199505)
ADT WO 9423301 A1 WO 1994-US3595 19940401; AU 9465289 A AU 1994-65289 19940401
FDT AU 9465289 A Based on WO 9423301
PRAI US 1993-42149 19930402
AN 1994-333360 [41] WPIDS
AB WO 9423301 A UPAB: 19941206
A component (I) of the renin-angiotensin-aldosterone hormonal axis (RAA) is determined by incubating a sample with: (a) a **fluorescently** labelled reactant, i.e. (I) or its specific antibody; and (b) a component, bound to a solid **phase**, which is the other of (I) and antibody. The concn. of bound and unbound label are then determined by spectrofluorimetry and the amt. of (I) calculated by comparison with a standard curve; constructed the same way using samples of known concns. of (I).

USE/ADVANTAGE - The method is used to determine concns. of angiotensin I or II, renin, angiotensinogen or aldosterone in whole blood, plasma, serum or urine, for diagnosis of hypertension, kidney or adrenal gland diseases, and cardiovascular disorders. The method is simple, rapid, sensitive, accurate, and can be performed in a doctor's office. Determn. of (I) at pg levels without use of radioactive materials is possible. More than (I) can be determined and their ratio calculated.
Dwg.1/2

L26 ANSWER 69 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1994-101207 [12] WPIDS
DNN N1994-079100 DNC C1994-046702
TI Stabilisation of alkoxy amine buffers used in optical determn. of enzymes - by adding stabilising agent which does not inhibit enzyme activity or interfere with optical measurements, e.g. hydroxylamine hydrochloride.
DC B04 D16 J04 S03
IN DAVIS, J E; LAU, H P; NEELKANTAN, N V
PA (DUPO) DU PONT DE NEMOURS & CO E I
CYC 19
PI WO 9405803 A1 19940317 (199412)* EN 20p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA JP
US 5397699 A 19950314 (199516) 5p
ADT WO 9405803 A1 WO 1993-US7787 19930824; US 5397699 A Cont of US 1992-937813
19920831, US 1994-206242 19940304
PRAI US 1992-937813 19920831
AN 1994-101207 [12] WPIDS
AB WO 9405803 A UPAB: 19940510
The stabilisation comprises adding a stabilising agent which (i) does not inhibit enzymatic activity and (ii) does not interfere with the optical determination in the wavelength region of measurement.

Pref., the buffer is chosen from monoethanolamine, diethanolamine, triethanolamine, 2-amino-2-methyl-1-propanol and tris (hydroxymethyl)-aminomethane, but is esp. diethanol-amine. The stabilising agent is hydroxyl-amine, alkoxylamine or their salts, sodium bisulphite, sodium sulphite, aluminium or zinc, esp. the stabilising agent is hydroxyl-amine hydrochloride. The wavelength region of measurement is 300-45 nm.

USE/ADVANTAGE - The alkoxyamine buffer is stabilised against substantial degradation so that enzyme activity can be optically determined. The stabilised buffers are suitable for use in assays for detecting and/or quantitating the presence or absence of **analyte**, e.g. in immunoassays and **nucleic** acid hybridisation **assays** using forward and reverse **sandwich assays**; **competitive assays** etc., which can be run in soln. or on a solid **phase**. Stabilising the alkoxyamine buffer limits the formation of degradation prods. which substantially interfere with optical determinations in the wavelength region of measurement.
Dwg.0/0
ABEQ US 5397699 A UPAB: 19950502
Stabilisation of alkanol-amine buffers used in **fluorescence** analysis for the determination of enzyme activity comprises addn. of hydroxylamine, an alkoxylamine or a corresp. salt, provided that the additive does not inhibit enzyme activity and minimises the formation of degradation prods. which interfere with the **fluorescence** analysis.

USE - The stabilised solns. are improved buffers for the determination of enzyme activity by **fluorescence** measurements for immunoanalytical applications.

ADVANTAGE - The stabilised solns. are durable for at least 12 months at 4 deg C.
Dwg.0/0

L26 ANSWER 70 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1993-288573 [36] WPIDS
DNN N1993-221916 DNC C1993-128845
TI Bridge immunoassay - has universal capture system used to detect analytes in fluid samples.
DC B04 S03
IN LAMOTTE, G B
PA (TRIT-N) TRITON DIAGNOSTICS INC
CYC 20
PI WO 9317335 A1 19930902 (199336)* EN 47p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: AT AU CA CH DE DK ES FI GB JP KR LU NL NO SE
AU 9214490 A 19930913 (199403)#
ADT WO 9317335 A1 WO 1992-US1563 19920224; AU 9214490 A AU 1992-14490 19920224
FDT AU 9214490 A Based on WO 9317335
PRAI WO 1992-US1563 19920224
AN 1993-288573 [36] WPIDS
AB WO 9317335 A UPAB: 19931122
An immunoassay (I) comprises the use of 3 receptors where:- (a) the 1st receptor is bound to a solid **phase** and has as its ligand a 2nd receptor or a ligand (A) conjugated to said 2nd receptor; (b) the 2nd receptor is a bridge receptor which has as its ligand a ligand (B) conjugated to a 3rd receptor; and (c) the 3rd receptor binds the analyte.

Also new is a diagnostic bit for the analyte comprising:- (i) a solid **phase** coated with the 1st receptor; (ii) a container contg. 2 receptors to the analyte, one of which is labelled and the other of which is conjugated to a ligand; and (iii) a container contg. the bridge receptor.

(I) pref. has a sandwich format in which a further labelled 4th receptor is employed that binds the **analyte**. Alternatively, it may have a **competitive** format where the 3rd receptor has as an additional ligand, a labelled analogue of the analyte under assay. Ligand (A) is a member of a specific binding pair and (B) is a hapten. The 1st receptor bound to the solid **phase** is avidin or streptavidin and ligand (A) is biotin whist the Lupten is **fluorescein**, dinitrobenzene, antigenic polysaccharide, naphthylamine, acridine or rhodamine. The label is an enzyme, radioisotope, stable free radical, chemiluminescent cpd., bioluminescent cpd., **fluorescent** cpd., dye or enzyme substrate.

USE/ADVANTAGE - The invention provides a novel immunoassay methodology where universal capture system is employed.
Dwg.0/8

L26 ANSWER 71 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1992-121000 [15] WPIDS
DNN N1992-090263 DNC C1992-056751
TI High sensitivity immunoassay $ - involves forming **sandwich** immune complex contg. an **analyte** substance in presence of avidin or streptavidin and solid **phase** fixing substance.
DC A96 B04 D16 S03
PA (ISHI-I) ISHIKAWA E
CYC 1
PI JP 04066871 A 19920303 (199215)* 15p
ADT JP 04066871 A JP 1990-180254 19900707
PRAI JP 1990-180254 19900707
AN 1992-121000 [15] WPIDS
AB JP 04066871 A UPAB: 19931006
Immunoassay involves forming **sandwich** immune complex contg. **analyte** substance in a sample in the presence of avidin or streptavidin by using a labelled matter labelled via biotin-avidin bond or biotin-streptoavidin bond shown by formula (a) or (b) and a solid **phase** fixing substance.

(a) X-biotin-avidin-labelling substance, (b) X-biotin-streptoavidin-labelling substance, X is immune reaction substance, antigen, antibody or anti-antibody.

Pref. labelling substance is e.g. enzyme e.g. peroxidase **fluorescent** substance such as **fluoresin** isothiocyanate, radioactive substance such as (3)H or (125)I, luminous substance such as acridium salt or metal cpd. such as europium complex. The labelled matter is made by binding biotin with immune reactive substance e.g. antigen or antibody and reacting the biotin-bound matter with avidin-or streptoavidin-labelled matter, and if necessary purifying the bound matter by e.g. column. Solid **phase** is e.g. agarose, polystyrene, paper, glass, etc., pref. polystyrene.

USE/ADVANTAGE - Invention relates to a method for high sensitivity immunoassay by using immune reactive substance labelled via biotin-avidin bond or biotin- streptoavidin bond in the presence of avidin or streptoavidiric According to the invention, high sensitivity immunoassay can be carried out with high reliability preventing the non-specific binding of the labelled matter onto solid **phase**.

L26 ANSWER 72 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1992-098262 [13] WPIDS
DNN N1992-073560 DNC C1992-045587
TI Immunoassay for target substance - by measuring **fluorescence quenching** in prod. contg. fine particles, antibody, **fluorescent** substance and **quencher**.
DC B04 J04 R16 S03
IN IKEDA, K; SUZUKI, H; TOYODA, K
PA (TOYJ) TOSOH CORP
CYC 6
PI EP 476545 A 19920325 (199213)* 12p
R: DE FR GB IT
JP 05034346 A 19930209 (199311) 7p
US 5434088 A 19950718 (199534) 10p
EP 476545 B1 19970507 (199723) EN 13p
R: DE FR GB IT
DE 69125992 E 19970612 (199729)
ADT EP 476545 A EP 1991-115597 19910913; JP 05034346 A JP 1991-221282 19910807; US 5434088 A Cont of US 1991-760137 19910916, US 1994-248527 19940524; EP 476545 B1 EP 1991-115597 19910913; DE 69125992 E DE 1991-625992 19910913, EP 1991-115597 19910913
FDT DE 69125992 E Based on EP 476545
PRAI JP 1990-242721 19900914
AN 1992-098262 [13] WPIDS
AB EP 476545 A UPAB: 19931006
Immunoassay comprises (a) binding a **fluorescent** substance and an antibody reacting specifically with a target substance (TS) to be detected, to a fine particle (A). (b) binding a **fluorescent** substance and an antibody reacting specifically with a target substance (TS) to be detected to a fine particle (A). (b) binding a **quencher** and an antibody reacting specifically with the TS to be detected through a different antigen determinant, to a fine particle (B), (c) placing the fine particle (A) and the fine particle (B) in contact with the TS contained in a sample to give an immunoreaction prod. comprising the TS sandwiched between the antibody on the fine particle (A) and the antibody on the fine particle (B) and (d) detecting **quenching** of the **fluorescence** occurring due to the **quencher**, thereby measuring the TS in the sample.

The combination of **fluorescent** substance and **quencher** is pref. a combination of (a) **fluorescein** and Texas red, (b) pyrene butyrate and beta-phycoerythrin, (c) **fluorescein** and 4',5'-dimethoxy-6-carboxy **fluorescein** or (d) **fluorescein** and rhodamine.

ADVANTAGE - The method can be used for the rapid detection of a TS with high sensitivity and without requiring bound/free sepn.

0/5
ABEQ US 5434088 A UPAB: 19950904
Immunoanalytical method comprises binding a **fluorescent** marker and a specific antibody for a given analyte to very fine particles A, e.g. colloidal particles, using BSA or PEG adsorbed on the particles as linking agents for the marker; also, binding a **fluorescence**

quencher and a specific antibody for the given analyte to very fine particles B, involving a different antigenic determinant, using BSA or PEG adsorbed on the particles as linking agents for the **quencher**; then incubating a test sample with the prepared A and B reagents, such that the **analyte** is complexed to the immobilised antibodies, **sandwiched** between A and B particles; and measurement of the loss of **fluorescence** intensity by the presence of the **quencher**.

USE - The process facilitates rapid immunoanalysis.

ADVANTAGE - The process avoids **phase** separations and is very sensitive, without interference of the immune reaction by the marker or **quencher**.

Dwg.0/5

ABEQ EP 476545 B UPAB: 19970606

A method for an immnunoassay comprising the steps of binding a **fluorescent** substance and an antibody reacting specifically with a target substance to be detected to a fine particle (A), the binding of the **fluorescent** substance to the fine particle (A) being effected so that the **fluorescent** substance is covalently bound to a substance which is adsorbed on the fine particle (A), binding a **quencher** and an antibody reacting specifically with the target substance to be detected through a different antigenic determinant to a fine particle (B), the binding of the **quencher** to the fine particle (B) being effected so that the **quencher** is covalently bound to a substance which is adsorbed on the fine particle (B), placing the fine particle (A) and the fine particle (B) in contact with the target substance contained in a sample to give an immunoreaction product comprising the target substance sandwiched between the antibody on the fine particle (A) and the antibody on the fine particle (B), and detecting a **quenching** of the **fluorescence** occurring due to the **quencher**, thereby measuring the target substance in the sample.

Dwg.0/5

L26 ANSWER 73 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1992-003707 [01] WPIDS
DNN N1992-002705 DNC C1992-001685
TI Immunoassay for rapid, sensitive nucleic acid determn. - involves contacting monoclonal antibody which recognises protein, single stranded nucleic acid probe, sample contg. nucleic acid, etc..
DC B04 D16 S03
PA (TOYJ) TOSOH CORP
CYC 1
PI JP 03257371 A 19911115 (199201)*
ADT JP 03257371 A JP 1990-55062 19900308
PRAI JP 1990-55062 19900308
AN 1992-003707 [01] WPIDS
AB JP 03257371 A UPAB: 19931006
Immuno-assay comprises (1) contacting (a) fixed monoclonal antibody (I) recognising protein, (b) single stranded nucleic acid probe bound with protein, (c) nucleic acid in sample, made into single stranded short chains and (d) monoclonal antibody (II) specifically recognising double stranded nucleic acid; (2) removing free nucleic acid, monoclonal antibody and nucleic acid probe; and (3) determining immunological reaction prod. formed.

Solid **phase** for fixing monoclonal antibody (II) is e.g. polystyrene, polyvinyl chloride, polycarbonate or agarose. Labelling substance used for labelling monoclonal antibody (II) is pref. **fluorescein** thiocyanate, peroxidase, D-galactosidase or alkaline phosphatase. Double stranded nucleic acid in sample is pretreated to convert it into single-stranded short chains for preventing hindering of hybridisation. Protein to be bound with nucleic acid is e.g. blood serum albumin.

USE/ADVANTAGE - The invention relates to a method for immunoassay of nucleic acid by **sandwich** method using monoclonal antibody structure-specific to **nucleic** acid. According to the invention, nucleic acid can be **determined** in a short time by simple operation. Many samples can be treated in a short time and the sensitivity is higher than that of previous methods as sample or nucleic acid probe is bound with protein. Binding of monoclonal antibody and hybridisation of nucleic acid are not mutually hindered.
0/0

L26 ANSWER 74 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1986-150948 [24] WPIDS
DNN N1986-112005 DNC C1986-064554
TI Detecting biologically active components in liquids - using flat bed adsorbent contg. series of reagents.
DC B04 J04 S03
IN FRIESEN, H J; GRENNER, G; HABENSTEIN, K; KOHL, H; PAULY, H E; STARK, J; FRIESEN, H; PAULY, H; STAERK, J
PA (BEHW) BEHRINGWERKE AG; (BEHW) BEHRINGWERKE AG
CYC 16
PI DE 3445816 C 19860612 (198624)* 9p
EP 186799 A 19860709 (198628) DE
R: AT BE CH DE FR GB IT LI LU NL SE
AU 8551315 A 19860619 (198632)
JP 61145459 A 19860703 (198633)
ES 8607556 A 19861101 (198701)
US 4861711 A 19890829 (198944)
EP 186799 B 19900221 (199008) DE
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3576083 G 19900329 (199014)
CA 1267083 A 19900327 (199017)
EP 186799 B2 19931020 (199342) DE 12p
R: AT BE CH DE FR GB IT LI LU NL SE
JP 07055808 A 19950303 (199518) 9p
JP 07078503 B2 19950823 (199538) 8p
JP 2504923 B2 19960605 (199627) 7p
ADT DE 3445816 C DE 1984-3445816 19841215; EP 186799 A EP 1985-115333 19851203; JP 61145459 A JP 1985-279418 19851213; ES 8607556 A ES 1985-549895 19851213; US 4861711 A US 1985-808563 19851213; EP 186799 B2 EP 1985-115333 19851203; JP 07055808 A Div ex JP 1985-279418 19851213, JP 1994-68634 19851213; JP 07078503 B2 JP 1985-279418 19851213; JP 2504923 B2
Div ex JP 1985-279418 19851213, JP 1994-68634 19851213
FDT JP 07078503 B2 Based on JP 61145459; JP 2504923 B2 Previous Publ. JP 07055808
PRAI DE 1984-3445816 19841215
AN 1986-150948 [24] WPIDS
AB DE 3445816 C UPAB: 19961011
Analytical device for the detection of determination of biologically active components in liquid samples comprises a flat bed of adsorbent with
a succession of reagents in adjacent zones, adsorbed or bonded to the carrier; the sample is introduced at one end, and is eluted through the bed with a suitable solvent. Suitable reagents are specific antigens, antibodies and enzymes, opt. labelled with **fluorescent** or chemiluminescent components and/or mixed with buffer agents.
ADVANTAGE - The prod. is an aid to rapid clinical analysis and diagnosis.
0/0
Dwg.0/0
ABEQ EP 186799 B UPAB: 19931202
An analytical device for the **detection** of a component of a binding pair having biological **affinity** (**analyte**) in a fluid, said device being composed of several sheet-like zones which are

arranged behind one another in such a manner that they are in absorbent contact with one another through their edges and that they form, together with the solid support, a sheet-like chromatographic analytical device, containing a mobile **phase** application zone (MPAZ) at one end of the device and an absorption zone (AZ) at the other end and also further absorptive zones situated intermediately in which reactants capable of interactions, of biological **affinity**, with the **analyte** are arranged in such a way that reactants capable of reacting with one another are present, separated spatially, in which a reactant is fixed to the solid **phase** zone (SPZ) by means of covalent bonds or adsorptively or via an interaction of biological affinity in a zone which is located between the MPAZ and AZ and is in contact with the AZ, or becomes attached in a reaction which takes place in the device through a further reactant which is fixed in the SPZ by covalent bonds or adsorptively or via an interaction of biological **affinity**, and in which the **analyte** application zone is the MPAZ or a zone between MPAZ and AZ, and a labeled reactant is located, unattached, in a zone between the MPAZ and the SPZ, wherein the sheet-like zones are formed from strips comprising different materials, each strip being fixed to the solid support.

Dwg.0/0

ABEQ US 4861711 A UPAB: 19930922

Analytical device for the detection of determination of a component in a fluid wherein said component is an analyte with bioaffinity binding properties, comprising a layer of a plurality of substantially planar zones adjacent one another and in absorbent contact with one another, the layer including a mobile **phase** application zone (MPAZ), an intermediate zone (IZ) and an adsorption zone (AZ), liquid being capable of moving by adsorption from said MPAZ through said IZ to AZ, and where IZ also comprises a solid **phase** zone (SPZ) having at least one unlabelled reactant, capable of interactions of biological **affinity** with at least one **analyte**; at least one unattached, labelled reactant (conjugate), capable of interactions of biological **affinity** with said at least one **analyte**, between the MPAZ and the SPZ; and an **analyte** application zone at MPAZ or in between MPAZ and AZ, where after application of said at least one analyte, said at least one analyte is reacted with said reactants in said layer and is detected in the layer.

L26 ANSWER 75 OF 75 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1986-020933 [03] WPIDS
CR 1986-020935 [03]; 1986-020937 [03]
DNN N1986-015422
TI Optical analysis of phosphorescent, luminescent sample material - measuring light from material which has passed into and through transparent solid surface optical waveguide.
DC S03 S05
IN SHANKS, I A; SMITH, A M; NYLANDER, C I
PA (ISTF) ARS APPLIED RES SYST HOLDING NV; (ISTF) ARES SERONO RES & DEV LTD; (ARES-N) ARES-SERONO INC; (ISTF) ARS HOLDING 89 NV; (SHAN-I) SHANKS I A; (UNIL) UNILEVER PLC; (ACTV) OCTROPA BV
CYC 15
PI WO 8600135 A 19860103 (198603)* EN 30p
RW: AT BE CH DE FR GB IT LI NL SE
W: AU JP US
EP 170375 A 19860205 (198606) EN
R: AT BE CH DE FR GB IT LI NL SE
EP 170376 A 19860205 (198606) EN
R: AT BE CH DE FR GB IT LI NL SE
EP 171148 A 19860212 (198607) EN
R: AT BE CH DE FR GB IT LI NL SE
AU 8544910 A 19860110 (198614)
AU 8544911 A 19860110 (198614)
AU 8544913 A 19860110 (198614)
JP 61502418 W 19861023 (198649)
JP 61502419 W 19861023 (198649)
JP 61502420 W 19861023 (198649)
CA 1231136 A 19880105 (198805)
CA 1246891 A 19881220 (198904)
EP 170376 B 19890315 (198911) EN
R: AT BE CH DE FR GB IT LI NL SE
US 4810658 A 19890307 (198912)
DE 3568874 G 19890420 (198917)
AU 8929672 A 19890525 (198929)
CA 1261256 A 19890926 (198945)
EP 170375 B 19900516 (199020)
R: AT BE CH DE FR GB IT LI NL SE
DE 3577748 G 19900621 (199026)
US 4978503 A 19901218 (199102)
EP 171148 B 19910417 (199116)
R: AT BE CH DE FR GB IT LI LU NL SE
EP 422708 A 19910417 (199116)
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3582532 G 19910523 (199122)
US 5141868 A 19920825 (199237) 11p
EP 422708 B1 19960925 (199643) EN 12p
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3588124 G 19961031 (199649)
ADT WO 8600135 A WO 1985-GB257 19850612; EP 170375 A EP 1985-304170 19850612; EP 170376 A EP 1985-304172 19850612; EP 171148 A EP 1985-304169 19850612; JP 61502418 W JP 1985-502716 19850612; JP 61502419 W JP 1985-502717 19850612; JP 61502420 W JP 1985-502718 19850612; US 4810658 A US 1986-829647 19860213; US 4978503 A US 1986-240478 19860207; EP 422708 A EP

1990-202486 19850612; US 5141868 A Cont of US 1986-883404 19860207, Cont of US 1988-212083 19880624, US 1989-442393 19891127; EP 422708 B1 Div ex EP 1985-304169 19850612, EP 1990-202486 19850612; DE 3588124 G DE 1985-3588124 19850612, EP 1990-202486 19850612

FDT DE 3588124 G Based on EP 422708

PRAI GB 1984-15019 19840613; GB 1984-15018 19840613; US 1986-829647 19860213; GB 1986-15018 19860613

AN 1986-020933 [03] WPIDS

CR 1986-020935 [03]; 1986-020937 [03]

AB WO 8600135 A UPAB: 19961211

The sample has light absorbing, scattering, **fluorescent,** phosphorescent and liminescent properties. A solid surface (3) is provided as a transparent solid surface waveguide and light is measured from the sample material (2) bound to the solid surface (3) that has passed into and through the transparent solid optical waveguide with total internal reflections.

The light emerges from the waveguide at an angle that deviates from the optical axis of the waveguide be an angle appreciably less than alpha.

Alpha = arcsin (n2 - n1), where n2 is the square of the refractive index of the material of the waveguide and n1 is the square of the refractive index of the adjacent liquid.

ADVANTAGE - Can discriminate sample material which is bound to solid surface from sample material that remains in solution.

Dwg.1/4

ABEQ EP 170375 B UPAB: 19930922

A specifically-reactive electrochemical test device, comprising electrodes, and a cavity (1-3, 51-2) having a dimension small enough to enable sample liquid to be drawn into the cavity by capillary action, the electrodes being arranged contact the liquid, characterised in that the electrode structure (10-11, 61-2) for making one or more measurements of one or more electrically measurable characteristics of the sample is included within said cavity (1-3, 51-2) and in that optionally a surface or wall (51) of the cavity carries a coating (63, 83) of a material appropriate to the test to be carried out in the device.

ABEQ EP 170376 B UPAB: 19930922

A method of optical analysis of a test sample which comprises a sample material with light-absorbing, scattering, **fluorescent,** phosphorescent or luminescent properties, which sample is partly in a liquid **phase** and partly bound to an adjacent solid surface, to discriminate the respective parts of said sample material which are located in the liquid and bound to said solid surface: comprising the steps of providing as said solid surface a surface e of a transparent solid optical waveguide, and measuring light from the sample material bound to said solid surface that has passed into and through said transparent solid optical waveguide with total internal reflections and emerged from said waveguide at an angle that deviates from the optical axis of said waveguide by an angle appreciably less than a, where: a = drcsin sq. rt. (n2 sq-n1 sq) where n2 is the refractive index of the material of the waveguide and n1 is the refractive index of the adjacent liquid, and excluding from said measurement substantially all light that has emerged from said waveguide at an angle that deviates from said optical axis by a or more.

ABEQ EP 171148 B UPAB: 19930922
A process of manufacturing specifically-reactive sample-collecting and testing devices, comprising the steps of (a) forming an immobilised specifically-reactive coating on the surface of a transparent sheet material which is capable of acting as a light transmissive waveguide and which is to provide a part of a multiplicity of the devices, (b) attaching to the said sheet material an additional structure which together with said coated sheet material provides for each device of the multiplicity of devices a cavity of capillary dimension for collecting and retaining by capillarity a volume of sample liquid in contact with the specifically-reactive coating and (c) separating the assembled laminate into portions each providing one or a plurality of the sample-collecting and testing devices, such that the transparent sheet material of each device has at least one edge transverse to the plane of the sheet which is substantially optically smooth.

ABEQ US 4810658 A UPAB: 19930922
Optical analysis of a test sample is performed by providing as the solid surface a surface of a transparent solid optical waveguide and measuring light from the sample material bound to the solid surface that has passed into and through the transparent solid optical waveguide with total internal reflections and emerged from the waveguide at an angle that deviates from the optical axis of the waveguide by an angle appreciably less than alpha.

Alpha = arcsin square root of ((n2)squared-(n1)squared), where n2 is the refractive index of the material of the waveguide and n1 is the refractive index of the adjacent liquid. Excluded from the measurement is all light that has emerged from the waveguide at an angle that deviates from the optical axis by alpha or more.

ABEQ US 4978503 A UPAB: 19930922
A specifically-reactive sample-collecting and testing device possesses a cavity or cavities each having a dimension small enough to enable sample liquid to be drawn into the cavity by capillary action. A surface of the cavity carries an immobilised reagent appropriate to the test to be carried out in the device.

The surface is of a transparent solid plate to act as a light-transmissive waveguide and forms a wall of the cavity, the plate having an edge which is optically smooth and transverse to the plane of the plate.

ADVANTAGE - Facilitates specific binding assays using very small liquid samples.

ABEQ EP 422708 B UPAB: 19961025
A specifically-reactive sample-collecting and testing device for use in **assaying** an **analyte** by means of a **sandwich assay**, said device possessing a cavity or cavities each having a dimension small enough to enable sample liquid to be drawn into the cavity by capillary action, wherein one surface of the or each cavity carries an immobilised reagent having specific **affinity** for said **analyte** and the same or another surface of the or each cavity carries, in dry releasable form, a further reagent having specific **affinity** for said **analyte**, the surface which carries the

immobilised reagent being a surface of a transparent solid plate which in use acts as a light-transmissive waveguide and which forms a wall of the or each cavity, said plate having an edge which is substantially optically smooth and transverse to the plane of the plate, the immobilised reagent and the further reagent being such that the result of any specific interaction with the analyte is optically measurable.
Dwg.1/7